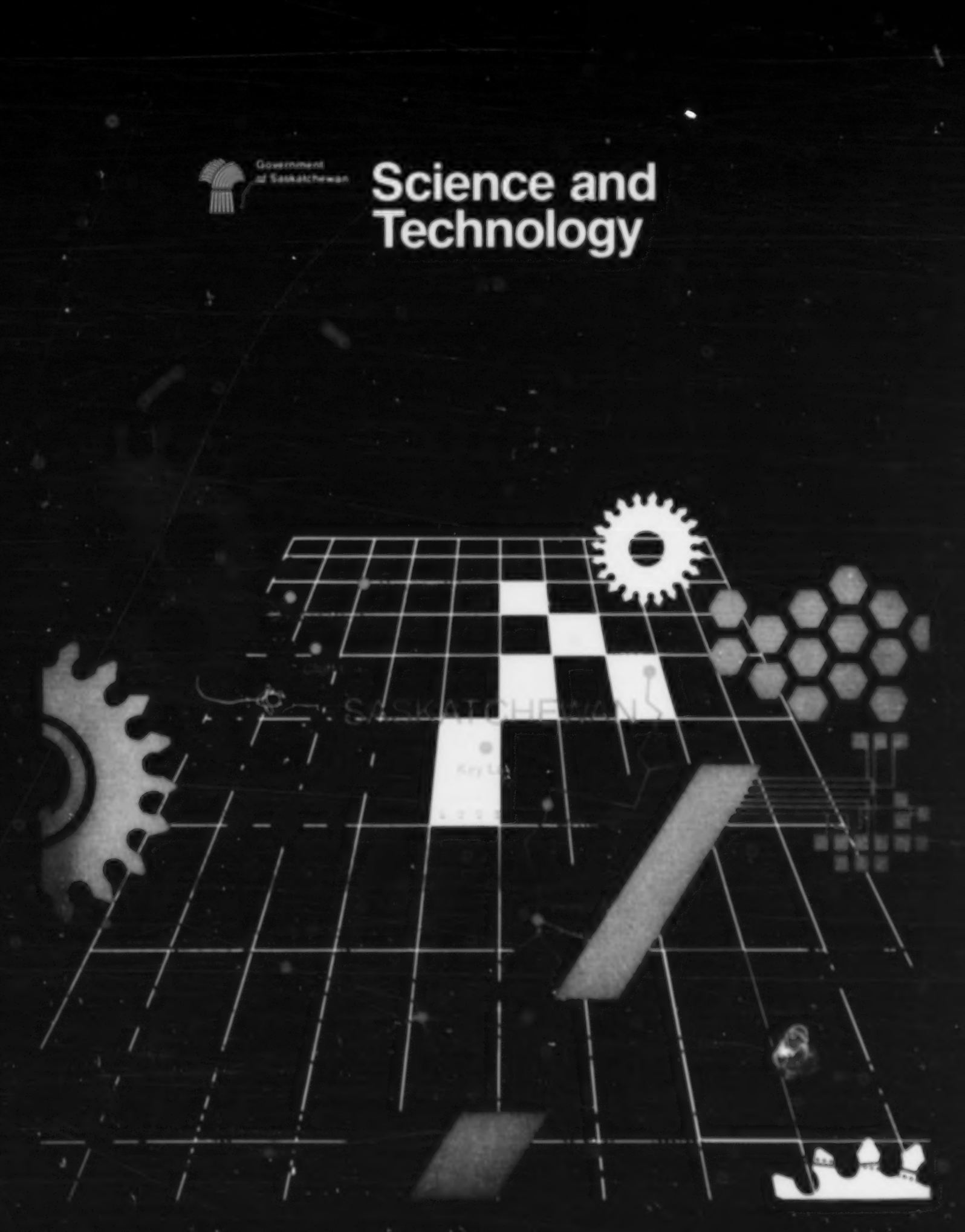
Government of Saskatchewan

Science and Technology



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SCIENTIFIC ACTIVITIES OF THE GOVERNMENT OF SASKATCHEWAN 1989-90 SURVEY RESULTS

A REPORT PREPARED BY:

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STATISTICS CANADA

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FOREWORD

This report presents a summary of results of the annual survey of scientific activities of the Government of Saskatchewan. The survey was conducted by Statistics Canada under contract to the Saskatchewan Department of Science and Technology. The field work was conducted by Lloyd Lizotte of Statistics Canada and assisted by Royal Hinther of Saskatchewan Science and Technology.

This survey is now conducted for all provinces except Prince Edward Island and the Yukon and Northwest Territories. Similar reports for other provinces, are available on request from the provincial Ministry sponsoring the survey. A list of the provincial co-ordinators is provided at the end of this report. Statistics Canada will also make available a summary report including an historical account of all scientific data available at the provincial government level.

Science surveys, like many other surveys, are based on the respondents' interpretation of definitions and methods of calculation. The accounting records available rarely use a science-based classification. Although the data are estimates, they are still a good representation of the current science expenditures and manpower for the province of Alberta.

The information produced in this report can assist decision makers in the organizations involved to coordinate their science activities and deploy their resources more effectively. It assists provincial S&T policy makers to evaluate current science policy and enables them to develop new policies. Statistics Canada uses the data as input for the development of a national aggregate research and development series. National aggregates are published by Statistics Canada in **Indicators of Science and Technology**, (Catalogue No. 88-002 Vol. 2 No. 2). The national aggregates are also needed to complete the international questionnaires for the Organization for Economic Cooperation and Development (OECD) and the United Nations Education, Science and Culture Organization (UNESCO).

The goodwill and efforts of the officials of the responding departments contributed greatly to the success of the survey. The assistance provided by the Department of Science and Technology is gratefully acknowledged.

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Statistical Tables

	All Sciences		Natural Sciences		Social Sciences	
	Table	Page	Table	Page	Table	Page
Historical Series 1983-84 to 1990-91(e):						
Total Expenditures:						
by Activity	1	14	23	40	45	60
by Department or Agency	2	15	24	40	46	61
by Performer	3	16	25	41	47	62
Total Expenditures on R&D:						
by Department or Agency	4	16	26	42	48	62
by Performer	5	17	27	42	49	63
Personnel Engaged in Scientific Activities, by Activity and Category	6	17	28	43	50	64
Expenditures in 1989-90 Fiscal Year:						
Total Expenditures:						
by Sources of Funds	7	18	29	44	51	65
by Activity and Performer	8	18	30	44	52	65
by Department or Agency and Performer	9	19	31	45	53	66
by Department or Agency and Activity	10	20	32	46	54	67
Total Expenditures on R&D by Department or Agency and Performer	11	21	33	47	55	67
Intramural Expenditures by Department or Agency and Type of Expenditure	12	21	34	47	56	68
Personnel Engaged in Scientific Activities, by Department or Agency and Activity	13	22	35	48	57	69
Objectives of Expenditures:						
by Department or Agency	14	24	36	49	58	71
by Activity	15	27	37	51	59	72

Statistical Tables

	All Sciences		Natural Sciences		Social Sciences	
	Table	Page	Table	Page	Table	Page
Estimates for 1990-91 Fiscal Year:						
Total Expenditures:						
by Activity and Performer	16	28	38	52	60	73
by Department or Agency and Performer	17	29	39	52	61	73
by Department or Agency and Activity	18	30	40	53	62	74
Expenditures on R&D by Department or Agency and Performer	19	31	41	54	63	74
Personnel Engaged in Scientific Activities, by Department or Agency and Activity	20	32	42	55	64	75
Objectives of Expenditures:						
by Department or Agency	21	34	43	56	65	76
by Activity	22	37	44	57	66	77

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The following symbols are used in this report:

- \- nil or zero
- — amount too small to be expressed
- ... figures are not available or not applicable
- (r) revised figures
- (e) estimated figures

DEFINITIONS

This report covers those scientific and technological activities which involve the generation, dissemination and application of new scientific and technological knowledge. The central activity is **research and experimental development** (R&D). In addition, there are a number of activities closely related to R&D and are referred to as the **related scientific activities** (RSA).

R&D is creative work undertaken on a systematic basis in order to increase the stock of scientific and technical knowledge, as well as knowledge of humans, their culture and society; and the use of this knowledge to devise new applications. The central characteristics of R&D is an appreciable element of novelty and uncertainty. It requires the acquisition of knowledge and not just information. New knowledge involves the integration of newly acquired information into existing hypotheses, the formulation and testing of new hypotheses or the re-evaluation of existing observations.

The major **related scientific activities** are education support, technical surveys, statistical surveys, information services, special services and studies, and museum services. Education support and museum services are largely self-explanatory.

Technical surveys are activities directed towards the exploration and systematic description of the earth and its natural resources. The activities include the gathering, processing, collating and analyzing of data on natural phenomena except when part of a research project or a museum service. The preparation of maps and survey reports, their printing and cataloguing, are also included.

Statistical surveys are activities directed towards the collecting, processing and disseminating of statistics on humankind, their economic and social activities. Included are the development of technical methodology, statistical analysis and vital statistics.

Information services are activities directed to recording, classifying, translating, and disseminating scientific and technological information (**Technology Transfer**) as well as information resulting from R&D in the social sciences or required in support of such R&D. Included are the operations of scientific and technical libraries, specialized libraries and archives, the publication of scientific journals and bibliographies, and the organizing of scientific conferences. Grants for the publication of scholarly works are also included.

Special services and studies in the natural sciences are activities directed towards the establishment of national and provincial standards for materials, devices, products and processes; the calibration of secondary standards; non-routine quality testing; feasibility studies and demonstration projects. In the social sciences, special services and studies are systematic investigations carried out in order to provide information needed for planning or policy formulation, including feasibility studies and demonstration projects.

There are also two different science types that are identified by this survey; the natural sciences and the social sciences and humanities.

Natural sciences consist of disciplines concerned with the understanding, exploring, developing or utilizing the natural world. Included are the engineering, mathematical, environmental, life and physical sciences.

Social sciences and humanities include all disciplines involving the study of human actions and conditions and the social, economic and institutional mechanisms affecting humans. Included are such disciplines as anthropology, business administration and commerce, communications, criminology, demography, economics, geography, history, languages, literature and linguistics, law, library science, philosophy, political science, psychology, religious studies, social work, sociology and urban and regional studies.

Five **performing sectors** are identified besides the Saskatchewan Research Council. **Intramural refers** to units of the provincial government performing scientific activities that are normally carried out by personnel assigned to the Department or Agency and usually in facilities of the Department or Agency. **Industry** consists largely of private corporations but also includes crown corporations with a commercial function (e.g., power utilities) and industrial research institutes not controlled by another institution. Consultants providing scientific and engineering services are also included. **Universities** cover post secondary educational institutions and affiliated teaching and research facilities. Also included are industrial research institutes affiliated with a university. **Hospitals and health organizations** are health organizations such as the Heart Foundation and hospitals which do not belong to the universities sector. **Other** includes non-resident performers of scientific activities funded by the provincial government, as well as recipients not covered elsewhere such as the Federal Government, other provincial departments, individuals, and foreign.

Expenditures are either **current** or **capital**. **Current expenditures** include costs of personnel, transportation and communications, information, professional and special services, rentals, purchased repair and upkeep, utilities, materials and supplies. **Capital expenditures** are those for the construction and acquisition of land, buildings, machinery and equipment. **Total expenditures** include current plus capital expenditures.

Departmental personnel data are requested by activity and category of employment in person-years or full-time equivalent. A person totally working full-time on a scientific activity is counted one person-year. Those working only part-time on scientific activities are considered as a fraction of a person-year, according to their involvement. Both permanent and non-permanent employees are included.

Objectives of expenditures are requested by activity and performer (intramural or extramural). The objectives listed are intended to cover the major areas of current economic, political and technological interest. Data are to be reported under the objective which is primary to that expenditure. Generally, the objective selected should be consistent with the stated objectives of the reporting department.

HIGHLIGHTS

Approximately 1.4% of the estimated 1989-90 budgetary expenditures of the government of Saskatchewan was spent on scientific activities. Total government expenditures and scientific expenditures for 1990-91 are both estimated to increase by 9%.

TEXT TABLE I. Scientific Activities of the Government of Saskatchewan

Department or agency	1989-90			1990-91(e)		
	Estimated expenditures	Scientific expenditures	%	Estimated expenditures	Scientific expenditures	%
	in millions of dollars		%	in millions of dollars		%
Agriculture and Food	145.5	14.4	9.9	187.3	16.3	8.7
Culture, Multiculturalism and Recreation	23.6	2.3	9.7	21.1	2.3	10.9
Education	840.8	3.5	0.4	888.0	3.1	0.3
Energy and Mines	15.2	2.7	17.8	14.3	2.1	14.7
Health	1,371.6	6.4	0.5	1507.3	6.4	0.4
Highways and Transportation	245.0	2.6	1.1	232.6	2.8	1.2
Parks, Recreation and Culture	72.4	2.8	3.9	74.8	2.8	3.7
Sub-total	2,714.1	34.7	1.3	2,925.4	35.8	1.2
Other (1)	1,595.4	23.9	1.5	1,715.9	25.9	1.5
TOTAL	**4,309.5**	**58.6**	**1.4**	**4,641.3**	**61.7**	**1.3**

(1) Includes Vote 35 (Grant to the Saskatchewan Research Council).

TEXT TABLE II. Total Expenditures on Scientific Activities, by Science Type, 1983-84 to 1990-91(e)

Science type	1983-84	1984-85	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91(e)
	in thousands of dollars							
Natural (1)	25,129	25,686	27,470	36,846	38,084	34,218	43,242	48,021
Social	11,678	16,936	19,113	16,580	9,057	10,108	15,334	13,722
TOTAL	**36,807**	**42,622**	**46,583**	**53,426**	**47,141**	**44,326**	**58,576**	**61,743**

(1) Includes Vote 35 (Grant to the Saskatchewan Research Council).

Of the total 1989-90 science expenditures, 74% ($43.2 million) are for natural science activities. Research and development (R&D) account for $26.6 million (61%) of this amount. The remaining $16.7 million is spent on related scientific activities (RSA). Major support of research and development comes from the departments of Agriculture and Food, Health and Science and Technology as well as the Saskatchewan Research Council. Special services and studies activity is the major related scientific activity, supported mainly by the departments of Agriculture and Food, and Science and Technology.

Social science activities account for 26% ($15.3 million) of the total 1989-90 Saskatchewan government science expenditures. Eighty percent of this is spent on related scientific activities. The departments of Education, Finance, Health, and Culture, Multiculturalism and Recreation are the major supporters of social science activities.

Note:

In this report the scientific expenditures of the Saskatchewan Research Council reflect only the yearly grant from the Saskatchewan Government (Vote 35). Additional information on the SRC is available in Science Statistics, Catalogue No. 88-001, Vol. 14, No. 9.

TEXT TABLE III. Total Expenditures on Scientific Activities, by Sector of Performance, 1989-90

Activity	Intramural	Industry	Universities	Hospitals and health organizations	Saskatchewan Research Council (1)	Other	Total
	in thousands of dollars						
R&D	2,935	7,164	9,292	100	7,791	2,417	29,699
RSA	17,260	6,363	1,740	412	207	2,895	28,877
TOTAL	**20,195**	**13,527**	**11,032**	**512**	**7,998**	**5,312**	**58,576**

(1) Includes only Provincial Government payments to the Saskatchewan Research Council (SRC).

The provincial government itself performed 34% of the scientific activities in 1989-90. Most of the RSA funded by the provincial government is performed in-house. However, only 10% of the R&D is performed by the government itself. This year the Industry sector is the largest extramural performer (23%) followed by the University sector (19%).

TEXT TABLE IV. Total Expenditures on Scientific Activities, by Source of Funds, 1989-90

Department or agency	Departmental budget	Transfers from other departments	Transfers from federal government	From trust funds	From other sources	Total
	in thousands of dollars					
Agriculture and Food	14,075	-	-	325	-	14,400
Education	3,460	-	-	-	-	3,460
Energy and Mines	2,473	178	-	-	-	2,651
Health	6,403	-	10	-	25	6,438
Highways and Transportation	2,638	-	-	-	-	2,638
Parks and Renewable Resources	2,358	12	-	117	264	2,751
Science and Technology	4,779	-	338	-	-	5,117
Other	19,378	235	212	-	1,296	21,121
TOTAL	**55,564**	**425**	**560**	**442**	**1 ,585**	**58,576**

The primary source of funds is the provincial departmental budgets, accounting for 95% of total science expenditure.

TEXT TABLE V. Personnel Engaged in Scientific Activities, by Science Type, Activity and Category, 1989-90

Science type and activity	Scientific & professional		Technical		Other		Total	
	Number	%	Number	%	Number	%	Number	%
Natural Sciences:								
R&D	10	29	23	68	1	3	34	100
RSA	44	35	56	44	26	21	126	100
AEP (1)	19	51	6	16	12	33	37	100
Sub-total	73	37	85	43	39	20	197	100
Social Sciences:								
R&D	3	100	-	-	-	-	3	100
RSA	89	67	7	5	38	28	134	100
AEP (1)	2	40	-	-	3	60	5	100
Sub-total	94	66	7	5	41	29	142	100
TOTAL	**167**	**49**	**92**	**27**	**80**	**24**	**339**	**100**

(1) Administration of extramural programs.

Of the total Saskatchewan government employees, 339 person-years are devoted to science activities. The scientific and professional category accounts for 49%, technical personnel constitute 27% and other support staff the remaining 24%.

TEXT TABLE VI. Objectives of Total Science Expenditures

Objective	1989-90		1990-91(e)	
	($'000)	%	($'000)	%
Advancement of science	980	2	675	1
Communications	131	-	35	-
Energy and fuels:				
Conservation	64	-	66	-
Fossil fuels	1,514	3	962	2
Renewable Resources	58	-	83	-
Other	462	1	361	1
Environmental issues:				
Land	1,032	2	1,461	2
Water	1,800	3	912	1
Other	1,724	3	1,500	2
Health	7,432	13	7,442	12
Industrial and economic development:				
Agriculture	15,744	27	17,315	28
Fisheries	20	-	-	-
Forestry	1,563	3	1,531	3
Manufacturing	6,575	11	5,957	10
Minerals	2,564	4	2,301	4
Other	2,750	5	7,259	12
Social development:				
Culture, sport and recreation	3,177	5	3,266	5
Education	3,708	6	3,363	5
Human resources	525	1	440	1
Urban and regional studies	392	1	520	1
Other	807	1	544	1
Transportation	2,869	5	2,999	5
Wildlife	687	1	688	1
Other	1,996	3	2,063	3
TOTAL	**58,576**	**100**	**61,743**	**100**

Forty-nine percent of the money spent on natural science activities in 1989-90 was applied to the areas of Industrial and economic development - Agriculture and Manufacturing. The major objective in the social sciences is Social Development ($8.0 million). Overall, $15.7 million was directed to Agriculture , $7.4 million to Health, $2.9 million to Transportation, $13.5 million to Industrial and economic development (excluding Agriculture), $8.6 million to Social development, $4.6 million to Environmental issues and $2.1 million to Energy and fuels.

ALL SCIENCES

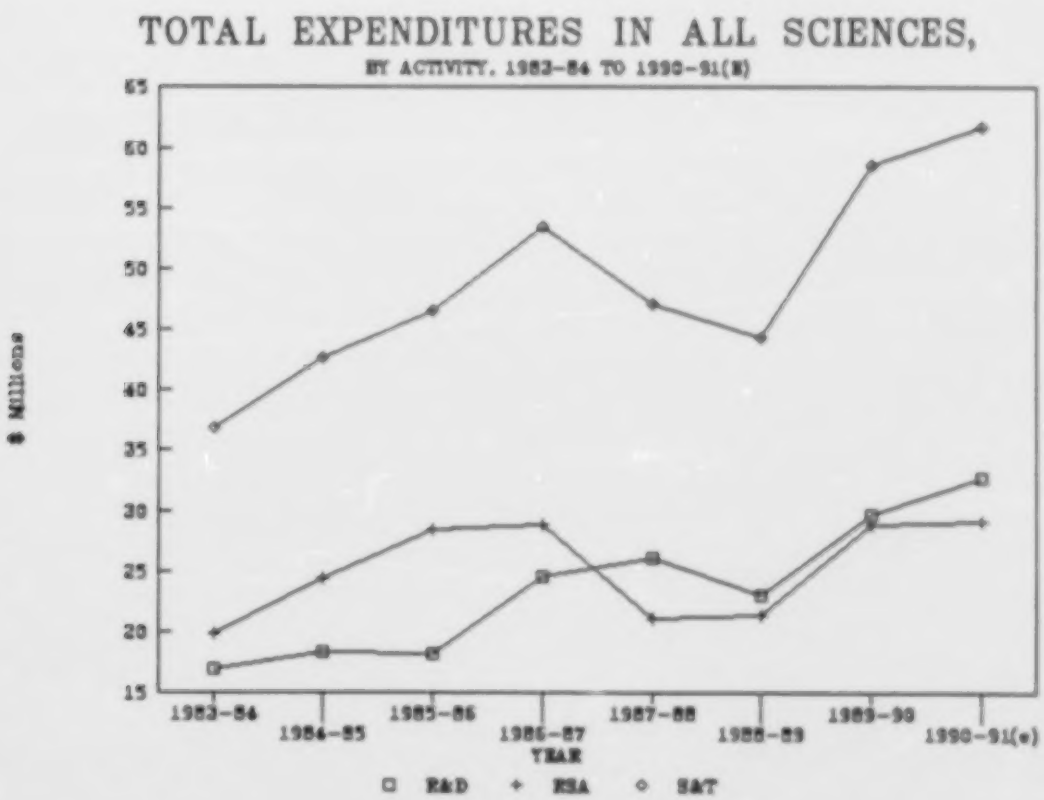
Government of Saskatchewan

TABLE 1. Total Expenditures in All Sciences, by Activity, 1983-84 to 1990-91(e)

Activity	1983-84	1984-85	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91(e)
	in thousands of dollars							
Research and development:								
Current expenditures:								
In-house	3,068	2,663	2,696	3,392	1,682	2,286	1,430	1,389
Contracts	3,795	4,265	6,819	6,225	4,256	2,811	3,256	4,663
Grants	9,853	11,086	8,130	16,401	18,777	16,434	23,489	23,994
Research fellowships	122	92	281	349	308	307	304	298
Administration of extramural R&D programs (1)	...	...	...	...	857	1,076	1,266	1,224
Sub-total	16,838	18,106	17,926	26,367	25,780	22,914	29,645	32,568
Capital expenditures	82	167	221	249	243	51	54	115
Related scientific activities:								
Current expenditures	19,730	23,680	28,386	28,773	20,753	20,427	25,724	26,743
Administration of extramural RSA programs (1)	...	...	...	...	340	365	865	579
Sub-total	19,730	23,680	28,386	28,773	21,093	20,792	26,589	27,322
Capital expenditures	157	669	30	37	25	569	2,288	1,738
TOTAL	36,807	42,622	46,583	55,426	47,141	44,326	58,576	61,743

(1) Administration of extramural programs was not reported seperately prior to 1987-88.

CHART 1



Government of Saskatchewan

TABLE 2. Total Expenditures in All Sciences by Department or Agency, 1983-84 to 1990-91(e)

Department or agency	1983-84	1984-85	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91(e)
	in thousands of dollars							
Departments:								
Advanced Education and Manpower	170	1,328	2,538	3,608	...	...	...	...
Agriculture and Food	8,607	6,613	5,911	12,549	12,510	11,306	14,000	16,303
Consumer and Commercial Affairs	75	295	50	40	40	40	40	40
Co-operation and Co-operative Development	219	224	232	132	...	...	...	...
Culture, Multiculturalism and Recreation	...	...	...	...	...	...	2,326	2,309
Culture and Recreation	258	464	507	586	...	...	...	...
Economic Development and Trade	556	647	756	...	...	...	...	...
Economic Development and Tourism	...	...	...	...	234	775	737	400
Education	158	300	322	231	725	1,092	3,460	3,163
Energy and Mines	5,183	4,274	3,437	5,422	5,380	1,701	2,451	2,144
Environment	687	755	1,773	1,273	...	...	...	...
Environment and Public Safety	...	...	...	...	1,726	1,688	1,963	2,187
Executive Council	269	938	665	278	194	164	122	58
Finance	...	1,052	1,132	1,501	1,762	1,676	1,679	1,806
Future Corporation	...	...	...	...	...	...	1,720	1,272
Health	5,274	5,532	5,612	4,687	4,163	3,645	6,438	6,359
Highways and Transportation	1,415	1,628	2,412	3,083	3,298	3,220	2,638	2,770
Human Resources, Labour and Employment	...	...	...	...	316	429	600	698
Indian and Native Affairs Secretariat	188	205	387	262	...	...	...	...
Justice	1,295	1,695	2,226	383	180	135	258	174
Labour	675	212	278	509	...	...	...	...
Parks and Renewable Resources	2,236	1,409	1,362	1,362	...	...	2,751	2,750
Parks, Recreation and Culture	...	...	...	...	1,999	5,207	...	...
Public Service Commission	...	292	315	112	66	66	129	125
Revenue and Financial Services	110	102	228	373	...	...	...	...
Rural Development	295	264	369	311	295	269	326	324
Saskatchewan Library	...	38	112	148	...	...	...	...
Saskatchewan Telephones	...	...	...	16	...	...	...	...
Science and Technology	652	2,477	3,992	6,487	3,996	4,028	3,117	4,894
Social Services	1,826	2,892	3,757	3,220	1,429	383	129	26
Supply and Services	868	1,956	769	610	...	...	...	...
Tourism and Small Business	90	264	180	238	...	...	...	...
Urban Affairs	468	795	415	437	182	128	127	218
Women's Secretariat	...	38	30	24	...	...	...	...
Vote 35	3,876	4,104	4,081	4,081	4,443	4,042	7,236	5,736
Sub-total	35,433	39,989	43,348	50,063	44,941	41,989	54,743	53,696
Agencies:								
Cancer Foundation	282	407	447	634	393	379	399	400
Employment Development Agency	...	...	379	562	...	...	...	...
Highway Traffic Board	90	84	84	...	...	...	...	...
Saskatchewan Archives Board	1,002	920	1,102	1,023	883	1,027	1,093	1,015
Saskatchewan Assessment Management Agency	...	33	35	13	...	...	...	...
Saskatchewan Crop Insurance Corporation	...	100	150	150	155	155	135	160
Saskatchewan Housing Corporation	...	319	234	181	194	139	294	313
Saskatchewan Property Management Corporation	...	...	...	...	595	635	700	9,712
Saskatchewan Water Corporation	...	755	784	1,000	20	12	1,261	977
Sub-total	1,374	2,637	3,215	3,563	2,200	2,337	3,833	8,057
TOTAL	36,807	42,622	46,563	53,626	47,141	44,326	58,576	61,743

Government of Saskatchewan

TABLE 3. Total Expenditures in All Sciences, by Performer, 1983-84 to 1990-91(e)

Performer	1983-84	1984-85	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91(e)
	In thousands of dollars							
Intramural	19,266	20,575	20,921	21,071	15,425	18,693	20,195	19,912
Industry	5,501	7,666	9,909	11,384	10,929	7,764	13,927	20,956
Universities	6,408	7,032	6,612	10,031	9,345	9,266	11,032	10,033
Hospitals and health organizations	293	886	986	369	-	58	912	1,002
Saskatchewan Research Council (1)	4,227	4,460	6,971	7,429	7,945	6,378	7,986	5,996
Other	1,202	2,093	1,193	2,163	3,901	2,185	5,312	4,644
TOTAL	36,897	42,623	46,583	53,426	47,141	44,336	58,976	61,743

(1) Includes only Provincial Government payments to the SRC.

Government of Saskatchewan

TABLE 4. Total Expenditures on R&D in All Sciences, by Department or Agency, 1983-84 to 1990-91(e)

Department or agency	1983-84	1984-85	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91(e)
	In thousands of dollars							
Departments:								
Agriculture and Food	4,654	4,989	4,196	9,065	9,977	8,692	11,365	13,947
Consumer and Commercial Affairs	12	...	...	...	...	...	...	...
Culture, Multiculturalism and Recreation	...	...	...	...	...	...	938	308
Culture and Recreation	18	36	68	165	...	...	...	...
Economic Development and Tourism	...	...	...	...	...	478	935	400
Education	...	...	...	...	...	63	226	312
Energy and Mines	3,320	3,378	3,665	3,063	1,729	380	981	317
Environment	50	55	220	276	...	...	...	...
Environment and Public Safety	...	...	...	...	300	300	300	300
Executive Council	69	181	162	80	82	64	...	...
Finance	...	...	...	...	...	...	...	63
Future Corporation	...	...	...	...	...	...	323	174
Health	2,587	2,961	3,196	3,177	2,684	2,219	4,267	4,431
Highways and Transportation	257	225	612	1,072	1,096	778	658	805
Parks and Renewable Resources	1,036	621	806	663	...	...	778	766
Parks, Recreation and Culture	...	...	...	...	780	925	...	...
Rural Development	...	...	...	...	...	...	90	90
Saskatchewan Library	...	...	19	74	...	...	...	...
Science and Technology	450	986	1,464	2,222	2,914	2,998	2,216	4,337
Social Services	133	161	164	113	119	298	...	...
Supply and Services	178	182	72	50	...	...	...	...
Tourism and Small Business	10	...	...	...	...	...	...	...
Vote 29	3,876	4,196	4,081	4,081	4,443	4,042	7,336	5,736
Sub-total	16,650	17,781	17,635	24,059	25,569	22,389	29,101	31,966
Agencies:								
Cancer Foundation	283	407	447	434	393	379	398	400
Saskatchewan Crop Insurance Corporation	...	5	5	5	20	20	...	5
Saskatchewan Property Management Corporation	...	...	...	...	50	165	200	712
Saskatchewan Water Corporation	...	80	60	118	20	12	...	...
Sub-total	282	492	512	557	483	576	598	1,117
TOTAL	16,930	18,273	18,147	24,616	26,023	22,965	29,699	33,083

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TABLE 5. Total Expenditures on R&D in All Sciences, by Performer, 1983-84 to 1990-91(e)

Performer	1983-84	1984-85	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91(e)
	in thousands of dollars							
Intramural	3,645	3,265	3,272	3,898	2,877	3,445	2,935	3,909
Industry	3,379	3,604	2,630	5,044	4,292	3,837	7,164	11,509
Universities	5,570	5,796	4,332	7,128	7,998	7,826	9,292	8,423
Hospitals and health organizations	189	886	986	361	-	58	100	597
Saskatchewan Research Council (1)	3,908	4,315	6,649	7,321	7,883	6,265	7,791	5,906
Other	229	407	278	864	2,973	1,534	2,417	2,339
TOTAL	16,920	18,273	18,147	24,616	26,023	22,965	29,699	32,683

(1) Includes only Provincial Government payments to the SRC.

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TABLE 6. Personnel Engaged in All Scientific Activities, by Activity and Category, 1983-84 to 1990-91(e)

Activity and category	1983-84	1984-85	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91(e)
	person years							
Research and development:								
Scientific and professional	44	42	32	47	25	27	13	16
Technical	37	42	43	44	18	30	23	23
Other	4	8	5	5	1	1	1	2
Sub-total	85	92	80	96	44	58	37	41
Related scientific activities:								
Scientific and professional	183	206	243	206	133	128	133	127
Technical	111	85	97	72	56	82	63	69
Other	77	91	96	53	47	58	64	61
Sub-total	371	382	436	331	236	268	260	257
Administration of extramural programs:								
Scientific and professional	...	...	...	...	14	18	21	25
Technical	...	...	...	...	3	2	6	6
Other	...	...	...	...	4	6	15	16
Sub-total	...	...	...	...	21	24	42	47
Total science activities:								
Scientific and professional	227	248	275	253	172	171	167	168
Technical	148	127	140	116	77	114	92	98
Other	81	99	101	58	52	65	80	79
TOTAL	456	474	516	427	301	350	339	345

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TABLE 7. Total Expenditures in All Sciences, by Sources of Funds, 1989-90

Department or agency	Departmental budget	Transfers from other departments	Transfers from federal government	From trust funds	From other sources	Total
	in thousands of dollars					
Departments:						
Agriculture and Food	14,075	-	-	325	-	14,400
Consumer and Commercial Affairs	40	-	-	-	-	40
Culture, Multiculturalism and Recreation	1,995	-	33	-	298	2,326
Economic Development and Tourism	607	27	-	-	103	737
Education	3,460	-	-	-	-	3,460
Energy and Mines	2,473	178	-	-	-	2,691
Environment and Public Safety	963	-	-	-	600	1,563
Executive Council	122	-	-	-	-	122
Finance	1,679	-	-	-	-	1,679
Future Corporation	1,720	-	-	-	-	1,720
Health	6,403	-	10	-	25	6,438
Highways and Transportation	2,638	-	-	-	-	2,638
Human Resources, Labour and Employment	800	-	-	-	-	800
Justice	258	-	-	-	-	258
Parks and Renewable Resources	2,358	12	-	117	264	2,751
Public Service Commission	125	-	-	-	-	125
Rural Development	326	-	-	-	-	326
Science and Technology	4,779	-	338	-	-	5,117
Social Services	18	-	111	-	-	129
Urban Affairs	127	-	-	-	-	127
Vote 35	7,336	-	-	-	-	7,336
Sub-total	52,302	217	492	442	1,290	54,743
Agencies:						
Cancer Foundation	398	-	-	-	-	398
Saskatchewan Archives Board	862	28	68	-	95	1,053
Saskatchewan Crop Insurance Corporation	135	-	-	-	-	135
Saskatchewan Housing Corporation	206	-	-	-	-	206
Saskatchewan Property Management Corporation	400	180	-	-	200	780
Saskatchewan Water Corporation	1,261	-	-	-	-	1,261
Sub-total	3,262	208	68	-	295	3,833
TOTAL	**55,564**	**425**	**560**	**442**	**1,585**	**58,576**

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TABLE 8. Total Expenditures in All Sciences, by Activity and Performer, 1989-90

Activity	Intramural	Industry	Universities	Hospitals and health organizations	Saskatchewan Research Council (1)	Other	Total
	in thousands of dollars						
Research and development:							
Current expenditures:							
In-house	1,430	...	...	...	...	...	1,430
Contracts	185	1,963	860	-	103	145	3,256
Grants	...	5,051	8,378	100	7,688	2,272	23,489
Research fellowships	-	150	54	-	-	-	204
Administration of extramural							
R&D programs	1,266	...	...	...	...	...	1,266
Sub-total	2,881	7,164	9,292	100	7,791	2,417	29,645
Capital expenditures	54	...	...	...	...	...	54
Related scientific activities:							
Current expenditures	14,107	6,363	1,740	412	207	2,895	25,724
Administration of extramural							
R&A programs	865	...	...	...	...	...	865
Sub-total	14,972	6,363	1,740	412	207	2,895	26,589
Capital expenditures	2,288	...	...	...	...	...	2,288
TOTAL	**20,195**	**13,527**	**11,032**	**512**	**7,998**	**5,312**	**58,576**

(1) Includes only Provincial Government payments to the SRC.

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TABLE 9. Total Expenditures in All Sciences, by Department or Agency and Performer, 1989-90

Department or agency	Intramural	Industry	Universities	Hospitals and health organizations	Saskatchewan Research Council (1)	Other	Total
	in thousands of dollars						
Departments:							
Agriculture and Food	623	3,853	8,277	-	345	1,302	14,400
Consumer and Commercial Affairs	40	-	-	-	-	-	40
Culture, Multiculturalism and Recreation	1,455	82	249	-	7	533	2,326
Economic Development and Tourism	152	553	12	-	-	20	737
Education	2,286	1,055	-	-	-	119	3,460
Energy and Mines	1,050	958	484	-	134	25	2,651
Environment and Public Safety	1,093	170	300	-	-	-	1,563
Executive Council	-	-	-	-	48	76	122
Finance	1,629	50	-	-	-	-	1,679
Future Corporation	210	-	91	120	7	1,292	1,720
Health	1,425	2,064	1,057	392	-	1,500	6,438
Highways and Transportation	2,460	98	77	-	3	-	2,638
Human Resources, Labour and Employment	350	-	-	-	-	250	800
Justice	258	-	-	-	-	-	258
Parks and Renewable Resources	2,707	3	14	-	-	27	2,751
Public Service Commission	118	-	-	-	-	7	125
Rural Development	41	195	-	-	90	-	326
Science and Technology	1,894	2,722	350	-	20	131	5,117
Social Services	18	-	111	-	-	-	129
Urban Affairs	78	19	-	-	-	30	127
Vote 35	-	-	-	-	7,336	-	7,336
Sub-total	18,087	11,822	11,022	512	7,988	5,312	54,743
Agencies:							
Cancer Foundation	398	-	-	-	-	-	398
Saskatchewan Archives Board	1,053	-	-	-	-	-	1,053
Saskatchewan Crop Insurance Corporation	135	-	-	-	-	-	135
Saskatchewan Housing Corporation	196	20	-	-	-	-	206
Saskatchewan Property Management Corporation	280	480	10	-	10	-	780
Saskatchewan Water Corporation	56	1,205	-	-	-	-	1,261
Sub-total	2,108	1,705	10	-	10	-	3,833
TOTAL	**20,195**	**13,527**	**11,032**	**512**	**7,998**	**5,312**	**58,576**

(1) Includes only Provincial Government payments to the SRC.

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TABLE 10. Total Expenditures in All Sciences, by Department or Agency and Activity, 1989-90

Department or agency	Research and development			Related scientific activities			Total
	Current	AEP(1)	Capital	Current	AEP(1)	Capital	
	in thousands of dollars						
Departments:							
Agriculture and Food	11,121	244	-	2,995	40	-	14,400
Consumer and Commercial Affairs	-	-	-	60	-	-	60
Culture, Multiculturalism and Recreation	513	15	-	1,705	65	28	2,326
Economic Development and Tourism	510	25	-	202	-	-	737
Education	226	-	-	1,224	120	1,090	3,460
Energy and Mines	416	85	-	2,050	-	100	2,651
Environment and Public Safety	300	-	-	1,263	-	-	1,563
Executive Council	-	-	-	122	-	-	122
Finance	-	-	-	1,679	-	-	1,679
Future Corporation	283	40	-	1,227	170	-	1,720
Health	4,247	-	-	2,191	-	-	6,438
Highways and Transportation	332	306	40	1,760	-	220	2,658
Human Resources, Labour and Employment	-	-	-	800	-	-	800
Justice	-	-	-	250	-	-	250
Parks and Renewable Resources	776	-	-	1,975	-	-	2,751
Public Service Commission	-	-	-	125	-	-	125
Rural Development	90	-	-	236	-	-	326
Science and Technology	1,695	521	-	2,431	670	-	5,117
Social Services	-	-	-	129	-	-	129
Urban Affairs	-	-	-	127	-	-	127
Vote 35	7,336	-	-	-	-	-	7,336
Sub-total	27,845	1,216	40	22,539	865	2,238	54,743
Agencies:							
Cancer Foundation	384	-	16	-	-	-	390
Saskatchewan Archives Board	-	-	-	1,093	-	-	1,093
Saskatchewan Crop Insurance Corporation	-	-	-	135	-	-	135
Saskatchewan Housing Corporation	-	-	-	256	-	-	256
Saskatchewan Property Management Corporation	150	50	-	530	-	50	780
Saskatchewan Water Corporation	-	-	-	1,261	-	-	1,261
Sub-total	534	50	16	3,185	-	50	3,833
TOTAL	28,379	1,266	56	25,724	865	2,288	58,576

(1) Administration of extramural programs.

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TABLE 11. Total Expenditures on R&D in All Sciences, by Department or Agency and Performer, 1989-90

Department or agency	Intramural	Industry	Universities	Hospitals and health organizations	Saskatchewan Research Council (1)	Other	Total
	in thousands of dollars						
Departments:							
Agriculture and Food	244	2,977	7,250	-	345	549	11,365
Culture, Multiculturalism and Recreation	150	82	249	-	-	47	528
Economic Development and Tourism	25	498	12	-	-	-	535
Education	113	-	-	-	-	113	226
Energy and Mines	85	79	329	-	-	8	501
Environment and Public Safety	-	-	300	-	-	-	300
Future Corporation	40	-	-	100	7	176	323
Health	-	1,940	807	-	-	1,500	4,247
Highways and Transportation	480	98	77	-	3	-	658
Parks and Renewable Resources	749	-	3	-	-	24	776
Rural Development	-	-	-	-	90	-	90
Science and Technology	521	1,440	255	-	-	-	2,216
Vote 35	-	-	-	-	7,336	-	7,336
Sub-total	2,407	7,114	9,282	100	7,781	2,417	29,101
Agencies:							
Cancer Foundation	398	-	-	-	-	-	398
Saskatchewan Property Management Corporation	130	50	10	-	10	-	200
Sub-total	528	50	10	-	10	-	598
TOTAL	**2,935**	**7,164**	**9,292**	**100**	**7,791**	**2,417**	**29,699**

(1) Includes only Provincial Government payments to the SRC.

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TABLE 12. Intramural Expenditures in All Sciences, by Department or Agency and Type of Expenditure, 1989-90

Department or agency	Current expenditures		Capital expenditures	Total
	Personnel costs	Other costs		
	in thousands of dollars			
Departments:				
Agriculture and Food	610	13	-	623
Consumer and Commercial Affairs	36	4	-	40
Culture, Multiculturalism and Recreation	1,052	375	28	1,455
Economic Development and Tourism	118	34	-	152
Education	333	63	1,890	2,286
Energy and Mines	781	169	100	1,050
Environment and Public Safety	763	330	-	1,093
Finance	1,391	238	-	1,629
Future Corporation	210	-	-	210
Health	724	701	-	1,425
Highways and Transportation	1,600	600	260	2,460
Human Resources, Labour and Employment	380	170	-	550
Justice	258	-	-	258
Parks and Renewable Resources	1,741	966	-	2,707
Public Service Commission	48	70	-	118
Rural Development	23	18	-	41
Science and Technology	913	981	-	1,894
Social Services	18	-	-	18
Urban Affairs	78	-	-	78
Sub-total	11,077	4,732	2,278	18,087
Agencies:				
Cancer Foundation	315	69	14	398
Saskatchewan Archives Board	790	263	-	1,053
Saskatchewan Crop Insurance Corporation	100	35	-	135
Saskatchewan Housing Corporation	170	16	-	186
Saskatchewan Property Management Corporation	230	-	50	280
Saskatchewan Water Corporation	56	-	-	56
Sub-total	1,661	383	64	2,108
TOTAL	**12,738**	**5,115**	**2,342**	**20,195**

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TABLE 13. Personnel Engaged in All Scientific Activities, by Department or Agency and Activity, 1989-90

Department or agency	Research and development				Related scientific activities			
	Scientific & professional	Technical	Other	Total	Scientific & professional	Technical	Other	Total
	person-years							
Departments:								
Agriculture and Food	-	-	-	-	5	-	5	10
Consumer and Commercial Affairs	-	-	-	-	1	-	-	1
Culture, Multiculturalism and Recreation	1	-	-	1	9	3	14	26
Economic Development and Tourism	-	-	-	-	2	-	-	2
Education	3	-	-	3	5	-	-	5
Energy and Mines	-	-	-	-	8	-	6	14
Environment and Public Safety	-	-	-	-	9	7	-	16
Finance	-	-	-	-	23	-	6	29
Future Corporation	-	-	-	-	-	-	-	-
Health	-	-	-	-	14	3	3	20
Highways and Transportation	2	2	1	5	7	13	10	30
Human Resources, Labour and Employment	-	-	-	-	7	-	3	10
Justice	-	-	-	-	5	-	-	5
Parks and Renewable Resources	6	4	-	10	11	29	1	41
Public Service Commission	-	-	-	-	-	2	-	2
Rural Development	-	-	-	-	-	1	-	1
Science and Technology	-	-	-	-	4	-	1	5
Social Services	-	-	-	-	1	-	-	1
Urban Affairs	-	-	-	-	2	-	-	2
Sub-total	12	6	1	19	111	58	49	218
Agencies:								
Cancer Foundation	-	15	-	15	-	-	-	-
Saskatchewan Archives Board	-	-	-	-	14	-	15	29
Saskatchewan Crop Insurance Corporation	-	-	-	-	1	1	-	2
Saskatchewan Housing Corporation	-	-	-	-	4	-	-	4
Saskatchewan Property Management Corporation	1	2	-	3	1	3	-	4
Saskatchewan Water Corporation	-	-	-	-	-	1	-	1
Sub-total	1	17	-	18	20	5	15	40
TOTAL	**13**	**23**	**1**	**37**	**133**	**63**	**64**	**260**

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TABLE 13. Personnel Engaged in All Scientific Activities, by Department or Agency and Activity, 1989-90 - Concluded

Department or agency	Administration of extramural programs				Total science activities			
	Scientific & professional	Technical	Other	Total	Scientific & professional	Technical	Other	Total
	person-years							
Departments:								
Agriculture and Food	3	3	2	8	8	3	7	18
Consumer and Commercial Affairs	-	-	-	-	1	-	-	1
Culture, Multiculturalism and Recreation	1	-	-	1	11	3	14	28
Economic Development and Tourism	-	-	1	1	2	-	1	3
Education	1	-	-	1	9	-	-	9
Energy and Mines	2	-	2	4	10	-	8	18
Environment and Public Safety	-	-	-	-	9	7	-	16
Finance	-	-	-	-	23	-	6	29
Future Corporation	-	-	6	6	-	-	6	6
Health	-	-	-	-	14	3	3	20
Highways and Transportation	2	2	1	5	11	17	12	40
Human Resources, Labour and Employment	-	-	-	-	7	-	3	10
Justice	-	-	-	-	5	-	-	5
Parks and Renewable Resources	1	1	-	2	18	34	1	53
Public Service Commission	-	-	-	-	-	2	-	2
Rural Development	-	-	-	-	-	1	-	1
Science and Technology	10	-	3	13	14	-	4	18
Social Services	-	-	-	-	1	-	-	1
Urban Affairs	-	-	-	-	2	-	-	2
Sub-total	20	6	15	41	145	70	65	280
Agencies:								
Cancer Foundation	-	-	-	-	-	15	-	15
Saskatchewan Archives Board	-	-	-	-	14	-	15	29
Saskatchewan Crop Insurance Corporation	-	-	-	-	1	1	-	2
Saskatchewan Housing Corporation	-	-	-	-	4	-	-	4
Saskatchewan Property Management Corporation	1	-	-	1	3	5	-	8
Saskatchewan Water Corporation	-	-	-	-	-	1	-	1
Sub-total	1	-	-	1	22	22	15	59
TOTAL	21	6	15	42	167	92	80	339

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TABLE 14. Objectives of Expenditures in All Sciences, by Department or Agency, 1989-90

Department or agency	Advancement of science	Communications	Energy and fuels				Environmental issues		
			Conserv-sation	Fossil fuels	Renewable Resources	Other	Land	Water	Other
	in thousands of dollars								
Departments:									
Agriculture and Food	-	-	-	-	-	-	-	-	-
Consumer and Commercial Affairs	-	-	-	-	-	-	-	-	-
Culture, Multiculturalism and Recreation	153	-	-	-	-	-	-	-	-
Economic Development and Tourism	-	-	-	-	-	-	-	-	-
Education	-	-	-	-	-	-	-	-	-
Energy and Mines	-	-	-	1,503	-	-	-	-	-
Environment and Public Safety	-	-	-	-	-	-	796	467	300
Executive Council	122	-	-	-	-	-	-	-	-
Finance	-	-	-	-	-	-	-	-	-
Future Corporation	235	131	64	11	58	-	203	42	-
Health	-	-	-	-	-	-	-	-	-
Highways and Transportation	-	-	-	-	-	-	-	-	-
Human Resources, Labour and Employment	-	-	-	-	-	-	-	-	-
Justice	-	-	-	-	-	-	-	-	-
Parks and Renewable Resources	-	-	-	-	-	-	35	30	30
Public Service Commission	-	-	-	-	-	-	-	-	-
Rural Development	-	-	-	-	-	-	-	-	-
Science and Technology									
Social Services	-	-	-	-	-	-	-	-	-
Urban Affairs	-	-	-	-	-	-	-	-	-
Vote 35	470	-	-	-	-	462	-	-	1,394
Sub-total	980	131	64	1,514	58	462	1,034	539	1,724
Agencies:									
Cancer Foundation	-	-	-	-	-	-	-	-	-
Saskatchewan Archives Board	-	-	-	-	-	-	-	-	-
Saskatchewan Crop Insurance Corporation	-	-	-	-	-	-	-	-	-
Saskatchewan Housing Corporation	-	-	-	-	-	-	-	-	-
Saskatchewan Property Management Corporation	-	-	-	-	-	-	-	-	-
Saskatchewan Water Corporation	-	-	-	-	-	-	-	1,261	-
Sub-total	-	-	-	-	-	-	-	1,261	-
TOTAL	**980**	**131**	**64**	**1,514**	**58**	**462**	**1,034**	**1,800**	**1,724**

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TABLE 14. Objectives of Expenditures in All Sciences, by Department or Agency, 1989-90 - Continued

Department or agency	Health	Industrial and economic development					
		Agriculture	Fisheries	Forestry	Manufacturing	Minerals	Other
	in thousands of dollars						
Departments:							
Agriculture and Food	-	14,400	-	-	-	-	-
Consumer and Commercial Affairs	-	-	-	-	-	-	-
Culture, Multiculturalism and Recreation	100	-	-	-	-	-	-
Economic Development and Tourism	-	-	-	-	421	-	261
Education	-	-	-	-	-	-	-
Energy and Mines	-	-	-	-	-	1,148	-
Environment and Public Safety	-	-	-	-	-	-	-
Executive Council	-	-	-	-	-	-	-
Finance	-	-	-	-	-	-	-
Future Corporation	86	256	-	46	10	-	-
Health	6,438	-	-	-	-	-	-
Highways and Transportation	-	-	-	-	-	-	-
Human Resources, Labour and Employment	410	-	-	-	-	-	-
Justice	-	-	-	-	-	-	-
Parks and Renewable Resources	-	-	20	1,517	-	-	-
Public Service Commission	-	-	-	-	-	-	-
Rural Development	-	-	-	-	-	-	95
Science and Technology	-	-	-	-	5,117	-	-
Social Services	-	-	-	-	-	-	-
Urban Affairs	-	-	-	-	-	-	-
Vote 35	-	953	-	-	1,027	1,416	1,614
Sub-total	7,034	15,609	20	1,563	6,575	2,564	1,970
Agencies:							
Cancer Foundation	398	-	-	-	-	-	-
Highway Traffic Board							
Saskatchewan Archives Board	-	-	-	-	-	-	-
Saskatchewan Crop Insurance Corporation	-	135	-	-	-	-	-
Saskatchewan Housing Corporation	-	-	-	-	-	-	-
Saskatchewan Property Management Corporation	-	-	-	-	-	-	780
Saskatchewan Water Corporation	-	-	-	-	-	-	-
Sub-total	398	135	-	-	-	-	780
TOTAL	**7,432**	**15,744**	**20**	**1,563**	**6,575**	**2,564**	**2,750**

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TABLE 14. Objectives of Expenditures in All Sciences, by Department or Agency, 1989-90 - Concluded

Department or agency	Social development					Transportation	Wildlife	Other	Total
	Culture, sport and recreation	Education	Human resources	Urban and regional studies	Other				
	in thousands of dollars								
Departments:									
Agriculture and Food	-	-	-	-	-	-	-	-	14,400
Consumer and Commercial Affairs	-	-	-	-	20	-	-	20	40
Culture, Multiculturalism and Recreation	1,869	-	10	-	194	-	-	-	2,326
Economic Development and Tourism	55	-	-	-	-	-	-	-	737
Education	-	3,460	-	-	-	-	-	-	3,460
Energy and Mines	-	-	-	-	-	-	-	-	2,651
Environment and Public Safety	-	-	-	-	-	-	-	-	1,563
Executive Council	-	-	-	-	-	-	-	-	122
Finance	-	-	-	-	-	-	-	1,679	1,679
Future Corporation	100	248	-	230	-	-	-	-	1,720
Health	-	-	-	-	-	-	-	-	6,438
Highways and Transportation	-	-	-	-	-	2,638	-	-	2,638
Human Resources, Labour and Employment	-	-	390	-	-	-	-	-	800
Justice	-	-	-	-	258	-	-	-	258
Parks and Renewable Resources	100	-	-	35	-	-	687	297	2,751
Public Service Commission	-	-	125	-	-	-	-	-	125
Rural Development	-	-	-	-	-	231	-	-	326
Science and Technology	-	-	-	-	-	-	-	-	5,117
Social Services	-	-	-	-	129	-	-	-	129
Urban Affairs	-	-	-	127	-	-	-	-	127
Vote 35	-	-	-	-	-	-	-	-	7,336
Sub-total	2,124	3,708	525	392	601	2,869	687	1,996	54,743
Agencies:									
Cancer Foundation	-	-	-	-	-	-	-	-	398
Highway Traffic Board									
Saskatchewan Archives Board	1,053	-	-	-	-	-	-	-	1,053
Saskatchewan Crop Insurance Corporation	-	-	-	-	-	-	-	-	135
Saskatchewan Housing Corporation	-	-	-	-	206	-	-	-	206
Saskatchewan Property Management Corporation	-	-	-	-	-	-	-	-	780
Saskatchewan Water Corporation	-	-	-	-	-	-	-	-	1,261
Sub-total	1,053	-	-	-	206	-	-	-	3,833
TOTAL	**3,177**	**3,708**	**525**	**392**	**807**	**2,869**	**687**	**1,996**	**58,576**

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TABLE 15. Objectives of Expenditures in All Sciences, by Activity, 1989-90

Objective	Intramural		Extramural		Total
	Research and development	Related scientific activities	Research and development	Related scientific activities	
	in thousands of dollars				
Advancement of science	113	34	560	273	980
Communications	-	11	-	120	131
Energy and fuels:					
Conservation	-	9	-	55	64
Fossil fuels	85	171	416	842	1,514
Renewable resources	-	8	-	50	58
Other	-	-	462	-	462
Environmental issues:					
Land	35	720	-	279	1,034
Water	35	457	27	1,281	1,800
Other	30	-	1,694	-	1,724
Health	409	1,585	4,402	1,036	7,432
Industrial and economic development:					
Agriculture	251	534	12,111	2,848	15,744
Fisheries	20	-	-	-	20
Forestry	19	1,481	63	-	1,563
Manufacturing	521	1,373	3,143	1,538	6,575
Minerals	-	794	1,416	354	2,564
Other	155	282	1,808	505	2,750
Social development:					
Culture, sport and recreation	13	2,375	200	589	3,177
Education	113	2,243	188	1,164	3,708
Human resources	-	508	10	7	525
Urban and regional studies	35	78	-	279	392
Other	34	552	83	138	807
Transportation	480	2,016	178	195	2,869
Wildlife	487	186	-	14	687
Other	100	1,843	3	50	1,996
TOTAL	**2,935**	**17,260**	**26,764**	**11,617**	**58,576**

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TABLE 16. Total Expenditures in All Sciences, by Activity and Performer, 1990-91(e)

Activity	Intramural	Industry	Universities	Hospitals and health organizations	Saskatchewan Research Council (1)	Other	Total
	in thousands of dollars						
Research and development:							
Current expenditures:							
In-house	1,706	...	...	...	...	...	1,706
Contracts	181	3,684	399	-	120	279	4,663
Grants	...	7,825	7,726	597	5,786	2,060	23,994
Research fellowships	-	-	298	-	-	-	298
Administration of extramural R&D programs	1,907	...	...	...	...	...	1,907
Sub-total	3,794	11,509	8,423	597	5,906	2,339	32,568
Capital expenditures	115	...	...	...	...	...	115
Related scientific activities:							
Current expenditures	13,286	9,047	1,610	405	90	2,305	26,743
Administration of extramural R&A programs	579	...	...	...	...	...	579
Sub-total	13,865	9,047	1,610	405	90	2,305	27,322
Capital expenditures	1,738	...	...	...	...	...	1,738
TOTAL	**19,512**	**20,556**	**10,033**	**1,002**	**5,996**	**4,644**	**61,743**

(1) Includes only Provincial Government payments to the SRC.

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TABLE 17. Total Expenditures in All Sciences, by Department or Agency and Performer, 1990-91(e)

Department or agency	Intramural	Industry	Universities	Hospitals and health organizations	Saskatchewan Research Council (1)	Other	Total
	in thousands of dollars						
Departments:							
Agriculture and Food	930	8,430	4,329	-	50	968	14,302
Consumer and Commercial Affairs	35	5	-	-	-	-	40
Culture, Multiculturalism and Recreation	1,731	40	45	-	-	493	2,309
Economic Development and Tourism	-	360	40	-	-	-	400
Education	1,930	1,000	-	-	-	212	3,142
Energy and Mines	979	684	330	-	90	61	2,144
Environment and Public Safety	1,375	912	300	-	-	-	2,187
Executive Council	-	-	-	-	-	55	55
Finance	1,756	50	-	-	-	-	1,806
Future Corporation	115	-	89	-	-	1,068	1,272
Health	1,114	-	2,739	1,002	-	1,500	6,355
Highways and Transportation	2,351	309	108	-	-	2	2,770
Human Resources, Labour and Employment	499	-	-	-	-	200	698
Justice	174	-	-	-	-	-	174
Parks and Renewable Resources	2,692	18	20	-	-	20	2,750
Public Service Commission	118	-	-	-	-	7	125
Rural Development	43	191	-	-	90	-	324
Science and Technology	1,849	3,005	-	-	-	-	4,854
Social Services	9	-	15	-	-	-	24
Urban Affairs	159	5	-	-	-	56	218
Vote 35	-	-	-	-	5,736	-	5,736
Sub-total	17,454	14,609	10,011	1,002	5,966	4,644	53,686
Agencies:							
Cancer Foundation	400	-	-	-	-	-	400
Saskatchewan Archives Board	1,019	-	-	-	-	-	1,019
Saskatchewan Crop Insurance Corporation	140	-	-	-	-	-	140
Saskatchewan Housing Corporation	193	20	-	-	-	-	213
Saskatchewan Property Management Corporation	240	5,400	22	-	30	-	5,712
Saskatchewan Water Corporation	50	527	-	-	-	-	577
Sub-total	2,050	5,947	22	-	30	-	8,057
TOTAL	19,512	20,556	10,033	1,002	5,996	4,644	61,743

(1) Includes only Provincial Government payments to the SRC.

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TABLE 18. Total Expenditures in All Sciences, by Department or Agency and Activity, 1990-91(e)

Department or agency	Research and development			Related scientific activities			Total
	Current	AEP(1)	Capital	Current	AEP(1)	Capital	
	in thousands of dollars						
Departments:							
Agriculture and Food	13,547	-	-	2,704	52	-	16,303
Consumer and Commercial Affairs	-	-	-	40	-	-	40
Culture, Multiculturalism and Recreation	297	11	-	1,908	65	28	2,309
Economic Development and Tourism	400	-	-	-	-	-	400
Education	312	-	-	1,210	120	1,500	3,142
Energy and Mines	263	54	-	1,827	-	-	2,144
Environment and Public Safety	300	-	-	1,887	-	-	2,187
Executive Council	-	-	-	55	-	-	55
Finance	63	-	-	1,743	-	-	1,806
Future Corporation	154	20	-	1,003	95	-	1,272
Health	4,431	-	-	1,924	-	-	6,355
Highways and Transportation	625	160	60	1,795	-	210	2,770
Human Resources, Labour and Employment	-	-	-	698	-	-	698
Justice	-	-	-	176	-	-	176
Parks and Renewable Resources	721	-	25	2,004	-	-	2,750
Public Service Commission	-	-	-	125	-	-	125
Rural Development	90	-	-	234	-	-	324
Science and Technology	2,695	1,652	-	320	187	-	4,854
Social Services	-	-	-	24	-	-	24
Urban Affairs	-	-	-	218	-	-	218
Vote 15	9,736	-	-	-	-	-	9,736
Sub-total	29,634	1,877	65	19,093	929	1,738	53,696
Agencies:							
Cancer Foundation	350	-	50	-	-	-	400
Highway Traffic Board	-	-	-	1,015	-	-	1,015
Saskatchewan Archives Board	-	-	-	1,015	-	-	1,015
Saskatchewan Crop Insurance Corporation	5	-	-	135	-	-	140
Saskatchewan Housing Corporation	-	-	-	213	-	-	213
Saskatchewan Property Management Corporation	682	30	-	4,990	90	-	5,712
Saskatchewan Water Corporation	-	-	-	577	-	-	577
Sub-total	1,037	30	50	6,690	90	-	8,057
TOTAL	30,661	1,907	115	26,763	979	1,738	61,743

(1) Administration of extramural programs.

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TABLE 19. Total Expenditures on R&D in All Sciences, by Department or Agency and Performer, 1990-91(e)

Department or agency	Intramural	Industry	Universities	Hospitals and health organizations	Saskatchewan Research Council (1)	Other	Total
	in thousands of dollars						
Departments:							
Agriculture and Food	17	7,450	5,327	-	50	403	13,547
Culture, Multiculturalism and Recreation	141	40	45	-	-	82	308
Economic Development and Tourism	-	360	40	-	-	-	400
Education	100	-	-	-	-	212	312
Energy and Mines	54	50	208	-	-	5	317
Environment and Public Safety	-	-	300	-	-	-	300
Finance	63	-	-	-	-	-	63
Future Corporation	20	-	19	-	-	135	174
Health	-	-	2,334	597	-	1,500	4,431
Highways and Transportation	386	309	108	-	-	2	805
Parks and Renewable Resources	711	15	20	-	-	-	746
Rural Development	-	-	-	-	90	-	90
Science and Technology	1,652	2,685	-	-	-	-	4,337
Social Services	-	-	-	-	-	-	-
Vote 15	-	-	-	-	5,736	-	5,736
Sub-total	3,444	10,909	8,401	597	5,876	2,339	31,566
Agencies:							
Cancer Foundation	400	-	-	-	-	-	400
Saskatchewan Crop Insurance Corporation	5	-	-	-	-	-	5
Saskatchewan Property Management Corporation	60	600	22	-	30	0	712
Saskatchewan Water Corporation	-	-	-	-	-	-	-
Sub-total	465	600	22	-	30	-	1,117
TOTAL	3,909	11,509	8,423	597	5,906	2,339	32,683

(1) Includes only Provincial Government payments to the SRC.

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TABLE 20. Personnel Engaged in All Scientific Activities, by Department or Agency, 1990-91(e)

Department or agency	Research and development				Related scientific activities			
	Scientific & professional	Technical	Other	Total	Scientific & professional	Technical	Other	Total
	person-years							
Departments:								
Agriculture and Food	-	-	-	-	2	-	2	4
Culture, Multiculturalism and Recreation	1	-	-	1	9	3	14	26
Consumer and Commercial Affairs	-	-	-	-	1	-	-	1
Education	3	-	-	3	5	1	-	6
Energy and Mines	-	-	-	-	8	-	6	14
Environment and Public Safety	-	-	-	-	5	11	-	16
Finance	1	-	-	1	26	-	6	32
Future Corporation	-	-	-	-	-	-	-	-
Health	-	-	-	-	15	3	2	20
Highways and Transportation	2	2	1	5	8	13	11	32
Human Resources, Labour and Employment	-	-	-	-	6	-	3	9
Justice	-	-	-	-	5	-	-	5
Parks and Renewable Resources	8	3	1	12	10	30	1	41
Public Service Commission	-	-	-	-	-	2	-	2
Rural Development	-	-	-	-	-	1	-	1
Science and Technology	-	-	-	-	2	-	-	2
Social Services	-	-	-	-	1	-	-	1
Urban Affairs	-	-	-	-	3	-	-	3
Sub-total	15	5	2	22	106	64	45	215
Agencies:								
Cancer Foundation	-	16	-	16	-	-	-	-
Saskatchewan Archives Board	-	-	-	-	14	-	14	28
Saskatchewan Crop Insurance Corporation	-	-	-	-	2	1	2	5
Saskatchewan Housing Corporation	-	-	-	-	4	-	-	4
Saskatchewan Property Management Corporation	1	2	-	3	1	3	-	4
Saskatchewan Water Corporation	-	-	-	-	-	1	-	1
Sub-total	1	18	-	19	21	5	16	42
TOTAL	**16**	**23**	**2**	**41**	**127**	**69**	**61**	**257**

TABLE 20. Personnel Engaged in All Scientific Activities, by Department or Agency and Activity, 1990-91(e) - Concluded

Department or agency	Administration of extramural programs				Total science activities			
	Scientific & professional	Technical	Other	Total	Scientific & professional	Technical	Other	Total
	(person-years)							
Departments:								
Agriculture and Food	4	3	4	11	6	3	6	15
Consumer and Commercial Affairs	-	-	-	-	1	-	-	1
Culture, Multiculturalism and Recreation	2	-	-	2	12	3	14	29
Education	1	-	-	1	9	1	-	10
Energy and Mines	2	-	2	4	10	-	8	18
Environment and Public Safety	-	-	-	-	5	11	-	16
Finance	-	-	-	-	27	-	6	33
Future Corporation	-	-	3	3	-	-	3	3
Health	-	-	-	-	15	3	2	20
Highways and Transportation	3	2	3	8	13	17	15	45
Human Resources, Labour and Employment	-	-	-	-	6	-	3	9
Justice	-	-	-	-	5	-	-	5
Parks and Renewable Resources	1	1	-	2	19	34	2	55
Public Service Commission	-	-	-	-	-	2	-	2
Rural Development	-	-	-	-	-	1	-	1
Science and Technology	11	-	4	15	13	-	4	17
Social Services	-	-	-	-	1	-	-	1
Urban Affairs	-	-	-	-	3	-	-	3
Sub-total	24	6	16	46	145	75	63	283
Agencies:								
Cancer Foundation	-	-	-	-	-	16	-	16
Saskatchewan Archives Board	-	-	-	-	14	-	14	28
Saskatchewan Crop Insurance Corporation	-	-	-	-	2	1	2	5
Saskatchewan Housing Corporation	-	-	-	-	4	-	-	4
Saskatchewan Property Management Corporation	1	-	-	1	3	5	-	8
Saskatchewan Water Corporation	-	-	-	-	-	1	-	1
Sub-total	1	-	-	1	23	23	16	62
TOTAL	25	6	16	47	168	98	79	345

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TABLE 21. Objectives of Expenditures in All Sciences, by Department or Agency, 1990-91(e)

Department or agency	Advancement of science	Communications	Energy and fuels				Environmental issues		
			Conservation	Fossil fuels	Renewable Resources	Other	Land	Water	Other
	in thousands of dollars								
Departments:									
Agriculture and Food	-	-	-	-	-	-	-	-	-
Consumer and Commercial Affairs	-	-	-	-	-	-	-	-	-
Culture, Multiculturalism and Recreation	160	-	-	-	-	-	-	-	-
Economic Development and Tourism	-	-	-	-	-	-	-	-	-
Education	-	-	-	-	-	-	-	-	-
Energy and Mines	-	-	-	991	-	-	-	-	-
Environment and Public Safety	-	-	-	-	-	-	1,217	330	300
Executive Council	95	-	-	-	-	-	-	-	-
Finance	-	-	-	-	-	-	-	-	-
Future Corporation	113	35	66	11	83	-	244	5	-
Health	-	-	-	-	-	-	-	-	-
Highways and Transportation	-	-	-	-	-	-	-	-	-
Human Resources, Labour and Employment	-	-	-	-	-	-	-	-	-
Justice	-	-	-	-	-	-	-	-	-
Parks and Renewable Resources	-	-	-	-	-	-	-	-	110
Public Service Commission	-	-	-	-	-	-	-	-	-
Rural Development	-	-	-	-	-	-	-	-	-
Science and Technology	-	-	-	-	-	-	-	-	-
Social Services	-	-	-	-	-	-	-	-	-
Urban Affairs	-	-	-	-	-	-	-	-	-
Vote 35	367	-	-	-	-	341	-	-	1,090
Sub-total	675	35	66	962	83	341	1,461	335	1,500
Agencies:									
Cancer Foundation	-	-	-	-	-	-	-	-	-
Saskatchewan Archives Board	-	-	-	-	-	-	-	-	-
Saskatchewan Crop Insurance Corporation	-	-	-	-	-	-	-	-	-
Saskatchewan Housing Corporation	-	-	-	-	-	-	-	-	-
Saskatchewan Property Management Corporation	-	-	-	-	-	-	-	-	-
Saskatchewan Water Corporation	-	-	-	-	-	-	-	577	-
Sub-total	-	-	-	-	-	-	-	577	-
Total	675	35	66	962	83	341	1,461	912	1,500

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TABLE 21. Objectives of Expenditures in All Sciences, by Department or Agency, 1990-91(e) - Continued

Department or agency	Health	Industrial and economic development				
		Agriculture	Forestry	Manufacturing	Minerals	Other
	in thousands of dollars					
Departments:						
Agriculture and Food	-	16,303	-	-	-	-
Consumer and Commercial Affairs	-	-	-	-	-	-
Culture, Multiculturalism and Recreation	-	-	-	-	-	-
Economic Development and Tourism	-	-	-	300	-	100
Education	-	-	-	-	-	-
Energy and Mines	-	-	-	-	1,193	-
Environment and Public Safety	250	-	-	-	-	90
Executive Council	-	-	-	-	-	-
Finance	-	-	-	-	-	-
Future Corporation	49	127	19	-	-	-
Health	6,355	-	-	-	-	-
Highways and Transportation	-	-	-	-	-	-
Human Resources, Labour and Employment	388	-	-	-	-	-
Justice	-	-	-	-	-	-
Parks and Renewable Resources	-	-	1,512	-	-	-
Public Service Commission	-	-	-	-	-	-
Rural Development	-	-	-	-	-	95
Science and Technology	-	-	-	4,854	-	-
Social Services	-	-	-	-	-	-
Urban Affairs	-	-	-	-	-	-
Vote 35	-	745	-	803	1,108	1,262
Sub-total	7,042	17,175	1,531	5,957	2,301	1,547
Agencies:						
Cancer Foundation	400	-	-	-	-	-
Saskatchewan Archives Board	-	-	-	-	-	-
Saskatchewan Crop Insurance Corporation	-	140	-	-	-	-
Saskatchewan Housing Corporation	-	-	-	-	-	-
Saskatchewan Property Management Corporation	-	-	-	-	-	5,712
Saskatchewan Water Corporation	-	-	-	-	-	-
Sub-total	400	140	-	-	-	5,712
TOTAL	**7,442**	**17,315**	**1,531**	**5,957**	**2,301**	**7,259**

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TABLE 21. Objectives of Expenditures in All Sciences, by Department or Agency 1990-91(e) - Concluded

Department or agency	Social development					Transportation	Wildlife	Other	Total
	Culture, sport and recreation	Education	Human resources	Urban and regional studies	Other				
	in thousands of dollars								
Departments:									
Agriculture and Food	-	-	-	-	-	-	-	-	16,303
Consumer and Commercial Affairs	-	-	-	-	20	-	-	20	40
Culture, Multiculturalism and Recreation	2,051	-	5	-	113	-	-	-	2,309
Economic Development and Tourism	-	-	-	-	-	-	-	-	400
Education	-	3,142	-	-	-	-	-	-	3,142
Energy and Mines	-	-	-	-	-	-	-	-	2,144
Environment and Public Safety	-	-	-	-	-	-	-	-	2,187
Executive Council	-	-	-	-	-	-	-	-	55
Finance	-	63	-	-	-	-	-	1,743	1,806
Future Corporation	100	158	-	262	-	-	-	-	1,272
Health	-	-	-	-	-	-	-	-	6,355
Highways and Transportation	-	-	-	-	-	2,770	-	-	2,770
Human Resources, Labour and Employment	-	-	310	-	-	-	-	-	698
Justice	-	-	-	-	174	-	-	-	174
Parks and Renewable Resources	100	-	-	40	-	-	688	300	2,750
Public Service Commission	-	-	125	-	-	-	-	-	125
Rural Development	-	-	-	-	-	229	-	-	324
Science and Technology	-	-	-	-	-	-	-	-	4,854
Social Services	-	-	-	-	24	-	-	-	24
Urban Affairs	-	-	-	218	-	-	-	-	218
Vote 35	-	-	-	-	-	-	-	-	5,736
Sub-total	2,251	3,363	440	520	331	2,999	688	2,063	53,686
Agencies:									
Cancer Foundation	-	-	-	-	-	-	-	-	400
Saskatchewan Archives Board	1,015	-	-	-	-	-	-	-	1,015
Saskatchewan Crop Insurance Corporation	-	-	-	-	-	-	-	-	140
Saskatchewan Housing Corporation	-	-	-	-	213	-	-	-	213
Saskatchewan Property Management Corporation	-	-	-	-	-	-	-	-	5,712
Saskatchewan Water Corporation	-	-	-	-	-	-	-	-	577
Sub-total	1,015	-	-	-	213	-	-	-	8,057
TOTAL	**3,266**	**3,363**	**440**	**520**	**544**	**2,999**	**688**	**2,063**	**61,743**

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TABLE 22. Objectives of Expenditures in All Sciences, by Activity, 1990-91(e)

Objective	Intramural		Extramural		Total
	Research and development	Related scientific activities	Research and development	Related scientific activities	
	in thousands of dollars				
Advancement of science	110	14	416	135	675
Communications	-	3	-	32	35
Energy and fuels:					
Conservation	-	6	-	60	66
Fossil fuels	54	108	263	537	962
Renewable resources	-	8	-	75	83
Other	-	-	361	-	361
Environmental issues:					
Land	-	1,124	-	337	1,461
Water	-	235	-	677	912
Other	110	-	1,390	-	1,500
Health	409	1,302	4,466	1,265	7,442
Industrial and economic development:					
Agriculture	324	358	13,985	2,648	17,315
Fisheries	-	-	-	-	-
Forestry	4	1,480	47	-	1,531
Manufacturing	1,652	197	3,788	320	5,957
Minerals	-	817	1,108	376	2,301
Other	60	295	2,104	4,800	7,259
Social development:					
Culture, sport and recreation	11	2,644	97	514	3,266
Education	100	1,928	287	1,048	3,363
Human resources	-	428	5	7	440
Urban and regional studies	40	155	-	325	520
Other	25	446	35	38	544
Transportation	386	2,003	419	191	2,999
Wildlife	461	207	-	20	688
Other	163	1,845	3	52	2,063
TOTAL	3,909	15,603	28,774	13,457	61,743

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TABLE 23. Total Expenditures in the Natural Sciences, by Activity, 1983-84 to 1990-91(e)

Activity	1983-84	1984-85	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91(e)
	in thousands of dollars							
Research and development:								
Current expenditures:								
In-house	2,748	2,392	2,408	2,994	1,530	1,838	1,264	1,498
Contracts	3,540	4,158	6,734	6,145	4,174	2,482	2,557	4,294
Grants	9,646	10,788	7,829	14,100	18,379	16,007	21,335	21,459
Research fellowships	122	92	281	349	208	307	153	244
Administration of extramural R&D programs (1)	...	...	...	...	857	1,041	1,226	1,896
Sub-total	16,056	17,430	17,252	25,588	25,148	21,675	26,535	29,391
Capital expenditures	82	125	218	249	243	51	54	115
Related scientific activities:								
Current expenditures:								
Education support	101	110	456	-	-	5	504	265
Technical surveys	4,353	3,445	4,169	4,864	4,959	6,098	6,222	10,714
Information services	2,024	2,368	2,006	2,475	1,108	940	1,162	393
Special services and studies	2,336	1,949	3,161	5,424	5,937	4,103	7,191	5,917
Museum services	113	178	171	219	352	767	569	632
Administration of extramural RSA programs (1)	...	...	...	...	312	265	610	359
Sub-total	8,927	8,050	9,963	12,982	12,668	12,178	16,258	18,280
Capital expenditures	64	81	37	27	25	314	395	235
TOTAL	**25,129**	**25,686**	**27,470**	**36,846**	**38,084**	**34,218**	**43,242**	**48,021**

(1) Administration of extramural programs was not reported separately prior to 1987-88.

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TABLE 24. Total Expenditures in the Natural Sciences, by Department or Agency, 1983-84 to 1990-91(e)

Department or agency	1983-84	1984-85	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91(e)
	in thousands of dollars							
Departments:								
Agriculture and Food	7,636	6,076	4,916	11,870	11,968	10,807	13,999	16,191
Culture and Recreation	166	215	206	246	...	...	...	...
Culture, Multiculturalism and Recreation	...	...	...	...	...	...	676	742
Economic Development and Tourism	...	...	...	...	...	22	...	...
Energy and Mines	5,183	4,274	3,437	5,422	5,380	1,701	2,651	2,144
Environment	687	755	1,773	1,273	...	...	...	...
Environment and Public Safety	...	...	...	...	1,726	1,605	1,563	2,187
Future Corporation	...	...	...	...	...	...	1,027	737
Health	2,609	2,847	3,016	2,926	2,579	2,178	3,011	2,952
Highways and Transportation	1,415	1,628	2,412	3,083	3,298	3,220	2,638	2,770
Parks and Renewable Resources	1,980	1,409	1,362	1,362	...	...	2,651	2,650
Parks, Recreation and Culture	...	...	...	...	1,636	3,451	...	...
Rural Development	205	197	200	267	256	265	231	229
Science and Technology	640	2,415	3,992	4,177	3,675	3,746	4,885	4,854
Supply and Services	440	440	650	555	...	...	...	...
Tourism and Small Business	10	62	44	...	...	...	...	...
Vote 35	3,876	4,106	4,081	4,081	6,449	6,042	7,336	5,736
Sub-total	24,847	24,424	26,089	35,262	36,961	33,037	40,668	41,192
Agencies:								
Cancer Foundation	282	407	447	434	393	379	398	400
Saskatchewan Crop Insurance Corporation	...	100	150	150	155	155	135	140
Saskatchewan Property Management Corporation	...	...	...	...	555	635	780	5,712
Saskatchewan Water Corporation	...	755	784	1,000	20	12	1,261	577
Sub-total	282	1,262	1,381	1,584	1,123	1,181	2,574	6,829
TOTAL	**25,129**	**25,686**	**27,470**	**36,846**	**38,084**	**34,218**	**43,242**	**48,021**

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TABLE 25. Total Expenditures in the Natural Sciences, by Performer, 1983-84 to 1990-91(e)

Performer	1983-84	1984-85	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91(e)
	in thousands of dollars							
Intramural	10,190	8,992	9,426	10,761	8,777	10,817	11,317	11,685
Industry	4,271	4,554	4,795	8,553	9,128	6,745	11,624	19,073
Universities	5,754	6,244	4,733	8,278	8,733	8,653	10,172	9,141
Hospitals and health organizations	88	886	986	364	-	-	120	597
Saskatchewan Research Council (1)	4,225	4,400	6,962	7,429	7,945	6,378	7,855	5,906
Other	601	610	568	8,661	3,501	1,625	2,154	1,619
TOTAL	**25,129**	**25,686**	**27,470**	**44,046**	**38,084**	**34,218**	**43,242**	**48,021**

(1) Includes only Provincial Government payments to the SRC.

CHART 2

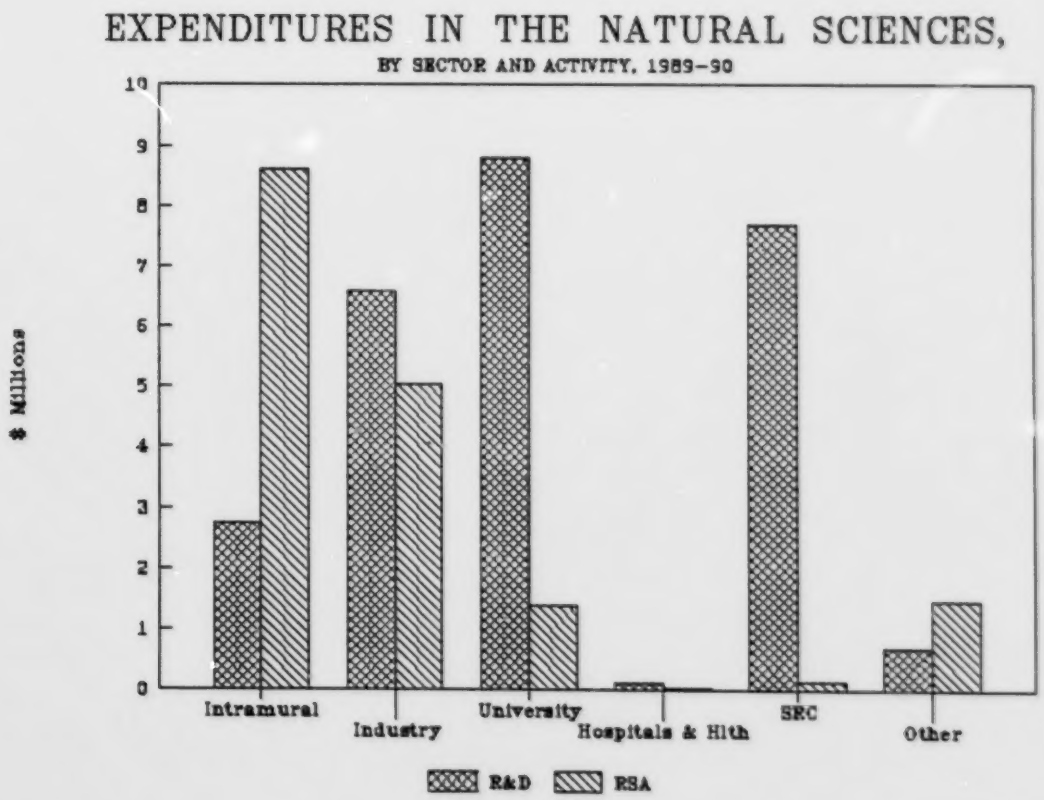

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TABLE 26. Total Expenditures on R&D in the Natural Sciences, by Department or Agency, 1983-84 to 1990-91(e)

Department or agency	1983-84	1984-85	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91(e)
	in thousands of dollars							
Departments:								
Agriculture and Food	4,554	4,989	4,196	9,065	9,977	8,376	11,365	13,547
Culture and Recreation	10	24	25	25	...	...	...	...
Culture, Multiculturalism and Recreation	...	...	...	...	...	...	82	85
Energy and Mines	3,320	3,378	2,685	3,063	1,729	300	501	317
Environment	50	55	220	274	...	...	...	...
Environment and Public Safety	...	...	...	...	200	350	300	300
Future Corporation	...	...	...	...	...	...	248	99
Health	2,313	2,609	2,837	2,785	2,601	2,130	2,509	2,617
Highways and Transportation	257	225	612	1,072	1,096	770	658	805
Parks and Renewable Resources	946	621	806	643	...	...	776	746
Parks, Recreation and Culture	...	...	...	...	548	734	...	...
Science and Technology	450	946	1,644	2,223	2,514	2,598	2,216	4,337
Supply and Services	70	70	72	50	...	...	...	...
Tourism and Small Business	10	...	...	...	...	...	...	...
Vote 35	3,876	4,106	4,081	4,081	4,443	4,042	7,336	5,736
Sub-total	15,856	17,063	16,958	23,280	24,908	21,150	25,991	28,389
Agencies:								
Cancer Foundation	282	607	447	434	393	379	398	400
Saskatchewan Crop Insurance Corporation	...	5	5	5	20	20	...	5
Saskatchewan Property Management Corporation	...	...	...	...	50	165	200	712
Saskatchewan Water Corporation	...	80	60	118	20	12	...	...
Sub-total	282	492	512	557	483	576	598	1,117
TOTAL	**16,138**	**17,555**	**17,470**	**23,837**	**25,391**	**21,726**	**26,589**	**29,506**

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TABLE 27. Total Expenditures on R&D in the Natural Sciences, by Performer, 1983-84 to 1990-91(e)

Performer	1983-84	1984-85	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91(e)
	in thousands of dollars							
Intramural	3,325	2,992	2,981	3,900	2,725	2,962	2,729	3,690
Industry	3,249	3,697	2,983	4,972	4,212	3,198	6,584	11,109
Universities	5,380	5,562	4,063	6,829	7,608	7,636	8,793	7,824
Hospitals and health organizations	82	886	986	361	-	-	100	597
Saskatchewan Research Council (1)	3,908	4,278	6,669	7,321	7,883	6,265	7,701	5,816
Other	194	380	238	854	2,963	1,465	682	470
TOTAL	**16,138**	**17,555**	**17,470**	**23,837**	**25,391**	**21,726**	**26,589**	**29,506**

(1) Includes only Provincial Government payments to SRC.

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TABLE 28. Personnel Engaged in Scientific Activities in the Natural Sciences, by Activity and Category, 1983-84 to 1990-91(e)

Activity and category	1983-84	1984-85	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91(e)
	person-years							
Research and development:								
Scientific and professional	37	37	29	42	22	18	10	12
Technical	36	39	38	41	18	28	23	23
Other	4	7	5	9	1	1	1	2
Sub-total	77	83	72	88	41	47	34	37
Related scientific activities:								
Scientific and professional	49	51	51	35	30	32	44	41
Technical	87	72	80	55	43	72	56	61
Other	8	17	18	14	17	24	26	29
Sub-total	144	140	149	104	90	128	126	131
Administration of extramural programs:								
Scientific and professional	...	...	...	...	13	14	19	22
Technical	...	...	...	...	3	1	6	6
Other	...	...	...	...	4	6	12	15
Sub-total	...	...	...	...	20	21	37	43
Total natural science activities:								
Scientific and professional	86	88	80	77	65	64	73	75
Technical	123	111	118	96	64	101	85	90
Other	12	24	23	19	22	31	39	46
TOTAL	221	223	221	192	151	196	197	211

CHART 3

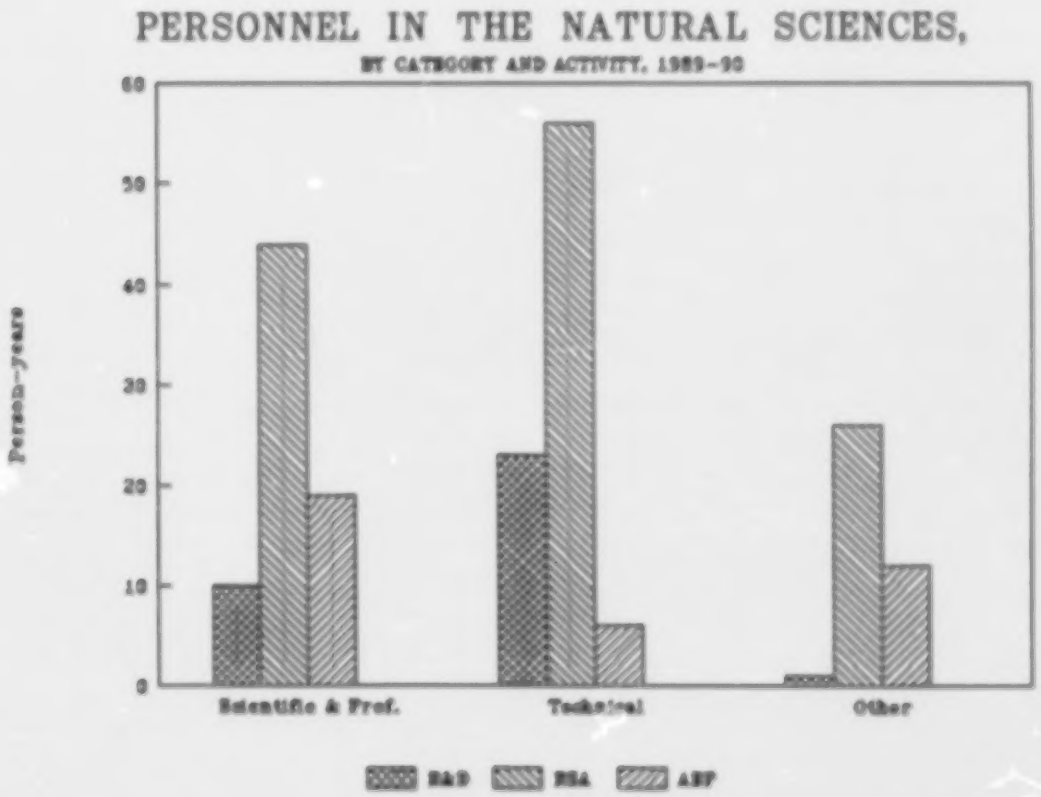

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TABLE 29. Total Expenditures in the Natural Sciences, by Sources of Funds, 1989-90

Department or agency	Departmental budget	Transfers from other departments	Transfers from federal government	From trust funds	From other sources	Total
	In thousands of dollars					
Departments:						
Agriculture and Food	13,674	-	-	325	-	13,999
Culture, Multiculturalism and Recreation	645	-	13	-	18	676
Energy and Mines	2,473	178	-	-	-	2,651
Environment and Public Safety	963	-	-	-	600	1,563
Future Corporation	1,027	-	-	-	-	1,027
Health	3,011	-	-	-	-	3,011
Highways and Transportation	2,638	-	-	-	-	2,638
Parks and Renewable Resources	2,298	13	-	117	264	2,691
Rural Development	231	-	-	-	-	231
Science and Technology	4,547	-	338	-	-	4,885
Vote 35	7,336	-	-	-	-	7,336
Sub-total	38,893	190	351	442	882	40,668
Agencies:						
Cancer Foundation	350	-	-	-	-	350
Saskatchewan Crop Insurance Corporation	135	-	-	-	-	135
Saskatchewan Property Management Corporation	650	100	-	-	200	700
Saskatchewan Water Corporation	1,261	-	-	-	-	1,261
Sub-total	2,194	100	-	-	200	2,974
TOTAL	40,997	370	351	442	1,082	43,342

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TABLE 30. Total Expenditures in the Natural Sciences, by Activity and Performer, 1989-90

Activity	Intramural	Industry	Universities	Hospitals and health organizations	Saskatchewan Research Council (1)	Other	Total
	In thousands of dollars						
Research and development:							
Current expenditures:							
In-house	1,264	...	...	...	...	...	1,264
Contracts	185	1,492	939	-	13	32	2,997
Grants	...	4,742	8,155	100	7,688	450	21,335
Research fellowships	-	190	9	-	-	-	193
Administration of extramural R&D programs	1,226	...	...	...	...	...	1,226
Sub-total	2,675	6,564	8,793	100	7,701	482	26,915
Capital expenditures	94	...	...	...	...	...	94
Related scientific activities:							
Current expenditures:							
Education support	5	89	191	-	-	299	584
Technical surveys	4,530	829	692	-	63	108	6,222
Information services	702	36	265	-	-	199	1,162
Special services and studies	1,777	4,084	271	20	91	948	7,191
Museum services	569	-	-	-	-	-	569
Administration of extramural R&A programs	610	...	...	...	...	...	610
Sub-total	8,193	9,040	1,379	20	154	1,672	16,258
Capital expenditures	295	...	...	...	...	...	295
TOTAL	11,317	11,634	10,172	120	7,855	2,154	43,342

(1) Includes only Provincial Government payments to the SRC.

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TABLE 31. Total Expenditures in the Natural Sciences, by Department or Agency and Performer, 1989-90

Department or agency	Intramural	Industry	Universities	Hospitals and health organizations	Saskatchewan Research Council (1)	Other	Total
	in thousands of dollars						
Departments:							
Agriculture and Food	343	3,732	8,277	-	345	1,302	13,999
Culture, Multiculturalism and Recreation	676	-	-	-	-	-	676
Energy and Mines	1,050	958	484	-	134	25	2,651
Environment and Public Safety	1,093	170	300	-	-	-	1,563
Future Corporation	140	-	91	120	7	669	1,027
Health	378	2,064	569	-	-	-	3,011
Highways and Transportation	2,460	98	77	-	3	-	2,638
Parks and Renewable Resources	2,610	-	14	-	-	27	2,651
Rural Development	36	195	-	-	-	-	231
Science and Technology	1,662	2,722	350	-	20	131	4,885
Vote 29	-	-	-	-	7,336	-	7,336
Sub-total	10,448	9,939	10,162	120	509	2,154	40,668
Agencies:							
Cancer Foundation	398	-	-	-	-	-	398
Saskatchewan Crop Insurance Corporation	135	-	-	-	-	-	135
Saskatchewan Property Management Corporation	280	480	10	-	10	-	780
Saskatchewan Water Corporation	56	1,205	-	-	-	-	1,261
Sub-total	869	1,685	10	-	10	-	2,574
TOTAL	11,317	11,624	10,172	120	7,855	2,154	43,242

(1) Includes only Provincial Government payments to the SRC.

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TABLE 32. Total Expenditures in the Natural Sciences, by Department or Agency and Activity, 1989-90

Department or agency	Research and development			Related scientific activities							Total
	Current	AEP(1)	Capital	Education support	Technical surveys	Information services	Special services and studies	Museum services	AEP(1)	Capital	
	in thousands of dollars										
Departments:											
Agriculture and Food	11,121	244	-	89	588	303	1,614	-	40	-	13,999
Culture and Recreation	82	-	-	-	-	-	-	369	-	25	676
Energy and Mines	416	85	-	-	1,166	10	874	-	-	100	2,651
Environment and Public Safety	380	-	-	-	556	-	707	-	-	-	1,563
Future Corporation	208	40	-	327	92	78	182	-	100	-	1,027
Health	2,509	-	-	-	-	4	498	-	-	-	3,011
Highways and Transportation	332	286	40	-	1,319	4	437	-	-	220	2,638
Parks and Renewable Resources	776	-	-	5	1,836	34	-	-	-	-	2,651
Rural Development	-	-	-	-	-	-	231	-	-	-	231
Science and Technology	1,695	521	-	83	-	729	1,387	-	470	-	4,885
Vote 35	7,336	-	-	-	-	-	-	-	-	-	7,336
Sub-total	24,775	1,176	40	504	5,557	1,162	5,930	369	610	345	40,668
Agencies:											
Cancer Foundation	384	-	14	-	-	-	-	-	-	-	398
Saskatchewan Crop Insurance Corporation	-	-	-	-	135	-	-	-	-	-	135
Saskatchewan Property Management Corporation	150	50	-	-	530	-	-	-	-	50	780
Saskatchewan Water Corporation	-	-	-	-	-	-	1,261	-	-	-	1,261
Sub-total	534	50	14	-	665	-	1,261	-	-	50	2,574
TOTAL	25,309	1,226	54	504	6,222	1,162	7,191	369	610	395	43,242

(1) Administration of extramural programs.

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TABLE 33. Total Expenditures on R&D in the Natural Sciences, by Department or Agency and Performer, 1989-90

Department or agency	Intramural	Industry	Universities	Hospitals and health organisations	Saskatchewan Research Council (1)	Other	Total
	in thousands of dollars						
Departments:							
Agriculture and Food	244	2,977	7,250	-	345	549	11,365
Culture, Multiculturalism and Recreation	82	-	-	-	-	-	82
Energy and Mines	85	79	329	-	-	8	501
Environment and Public Safety	-	-	300	-	-	-	300
Future Corporation	40	-	-	100	7	101	248
Health	-	1,940	569	-	-	-	2,509
Highways and Transportation	480	98	77	-	3	-	658
Parks and Renewable Resources	749	-	3	-	-	24	776
Science and Technology	521	1,440	255	-	-	-	2,216
Vote 35	-	-	-	-	7,336	-	7,336
Sub-total	2,201	6,534	8,783	100	7,691	682	25,991
Agencies:							
Cancer Foundation	398	-	-	-	-	-	398
Saskatchewan Property Management Corporation	130	50	10	-	10	-	200
Sub-total	528	50	10	-	10	-	598
TOTAL	2,729	6,584	8,793	100	7,701	682	26,589

(1) Includes only Provincial Government payments to the SRC.

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TABLE 34. Intramural Expenditures in the Natural Sciences, by Department or Agency and Type of Expenditure, 1989-90

Department or agency	Current expenditures		Capital expenditures	Total
	Personnel costs	Other costs		
	in thousands of dollars			
Departments:				
Agriculture and Food	330	13	-	343
Culture, Multiculturalism and Recreation	464	187	25	676
Energy and Mines	781	169	100	1,050
Environment and Public Safety	763	330	-	1,093
Future Corporation	140	-	-	140
Health	90	288	-	378
Highways and Transportation	1,600	600	260	2,460
Parks and Renewable Resources	1,651	959	-	2,610
Rural Development	19	17	-	36
Science and Technology	745	917	-	1,662
Sub-total	6,583	3,480	385	10,448
Agencies:				
Cancer Foundation	315	69	14	398
Saskatchewan Crop Insurance Corporation	100	35	-	135
Saskatchewan Property Management Corporation	230	-	50	280
Saskatchewan Water Corporation	56	-	-	56
Sub-total	701	104	64	869
TOTAL	7,284	3,584	449	11,317

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TABLE 35. Personnel Engaged in Scientific Activities in the Natural Sciences, by Department or Agency and Activity, 1989-90

Department or agency	Research and development				Related scientific activities			
	Scientific & professional	Technical	Other	Total	Scientific & professional	Technical	Other	Total
	person-years							
Departments:								
Agriculture and Food	-	-	-	-	1	-	1	2
Culture, Multiculturalism and Recreation	1	-	-	1	4	1	7	12
Energy and Mines	-	-	-	-	8	-	6	14
Environment and Public Safety	-	-	-	-	9	7	-	16
Future Corporation	-	-	-	-	-	-	-	-
Health	-	-	-	-	2	-	1	3
Highways and Transportation	2	2	1	5	7	13	10	30
Parks and Renewable Resources	6	4	-	10	9	29	1	39
Rural Development	-	-	-	-	-	1	-	1
Science and Technology	-	-	-	-	2	-	-	2
Sub-total	9	6	1	16	42	51	26	119
Agencies:								
Cancer Foundation	-	15	-	15	-	-	-	-
Saskatchewan Crop Insurance Corporation	-	-	-	-	1	1	-	2
Saskatchewan Property Management Corporation	1	2	-	3	1	3	-	4
Saskatchewan Water Corporation	-	-	-	-	-	1	-	1
Sub-total	1	17	-	18	2	5	-	7
TOTAL	10	23	1	34	44	56	26	126

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TABLE 35. Personnel Engaged in Scientific Activities in the Natural Sciences, by Department or Agency and Activity, 1989-90 - Concluded

Department or agency	Administration of extramural programs				Total natural science activities			
	Scientific & professional	Technical	Other	Total	Scientific & professional	Technical	Other	Total
	(person-years)							
Departments:								
Agriculture and Food	3	3	2	8	4	3	3	10
Culture, Multiculturalism and Recreation	-	-	-	-	5	1	7	13
Energy and Mines	2	-	2	4	10	-	8	18
Environment and Public Safety	-	-	-	-	9	7	-	16
Future Corporation	-	-	4	4	-	-	4	4
Health	-	-	-	-	2	-	1	3
Highways and Transportation	2	2	1	5	11	17	13	40
Parks and Renewable Resources	1	1	-	2	16	34	1	51
Rural Development	-	-	-	-	-	1	-	1
Science and Technology	10	-	3	13	12	-	3	15
Sub-total	18	6	12	36	69	63	39	171
Agencies:								
Cancer Foundation	-	-	-	-	-	15	-	15
Saskatchewan Crop Insurance Corporation	-	-	-	-	1	1	-	2
Saskatchewan Property Management Corporation	1	-	-	1	3	5	-	8
Saskatchewan Water Corporation	-	-	-	-	-	1	-	1
Sub-total	1	-	-	1	4	22	-	26
TOTAL	19	6	12	37	73	85	39	197

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TABLE 36. Objectives of Expenditures in the Natural Sciences, by Department or Agency, 1989-90

Department or agency	Advancement of science	Communications	Energy and fuels				Environmental issues		
			Conservation	Fossil fuels	Renewable Resources	Other	Land	Water	Other
	in thousands of dollars								
Departments:									
Agriculture and Food	-	-	-	-	-	-	-	-	-
Culture, Multiculturalism and Recreation	82	-	-	-	-	-	-	-	-
Energy and Mines	-	-	-	1,503	-	-	-	-	-
Environment and Public Safety	-	-	-	-	-	-	796	467	300
Future Corporation	235	81	64	11	58	-	203	42	-
Health	-	-	-	-	-	-	-	-	-
Highways and Transportation	-	-	-	-	-	-	-	-	-
Parks and Renewable Resources	-	-	-	-	-	-	35	30	30
Rural Development	-	-	-	-	-	-	-	-	-
Science and Technology	-	-	-	-	-	-	-	-	-
Vote 35	470	-	-	-	-	462	-	-	1,394
Sub-total	787	81	64	1,514	58	462	1,034	539	1,724
Agencies:									
Cancer Foundation	-	-	-	-	-	-	-	-	-
Saskatchewan Crop Insurance Corporation	-	-	-	-	-	-	-	-	-
Saskatchewan Property Management Corporation	-	-	-	-	-	-	-	-	-
Saskatchewan Water Corporation	-	-	-	-	-	-	-	1,261	-
Sub-total	-	-	-	-	-	-	-	1,261	-
TOTAL	**787**	**81**	**64**	**1,514**	**58**	**462**	**1,034**	**1,800**	**1,724**

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TABLE 36. Objectives of Expenditures in the Natural Sciences, by Department or Agency, 1989-90 - Continued

Department or agency	Health	Industrial and economic development					
		Agriculture	Fisheries	Forestry	Manufacturing	Minerals	Other
	in thousands of dollars						
Departments:							
Agriculture and Food	-	13,999	-	-	-	-	-
Culture, Multiculturalism and Recreation	-	-	-	-	-	-	-
Energy and Mines	-	-	-	-	-	1,148	-
Environment and Public Safety	-	-	-	-	-	-	-
Future Corporation	86	191	-	46	10	-	-
Health	3,011	-	-	-	-	-	-
Highways and Transportation	-	-	-	-	-	-	-
Parks and Renewable Resources	-	-	20	1,517	-	-	-
Rural Development	-	-	-	-	-	-	-
Science and Technology	-	-	-	-	4,885	-	-
Vote 35	-	953	-	-	1,027	1,416	1,614
Sub-total	3,097	15,143	20	1,563	5,922	2,564	1,614
Agencies:							
Cancer Foundation	398	-	-	-	-	-	-
Saskatchewan Crop Insurance Corporation	-	135	-	-	-	-	-
Saskatchewan Property Management Corporation	-	-	-	-	-	-	780
Saskatchewan Water Corporation	-	-	-	-	-	-	-
Sub-total	398	135	-	-	-	-	780
TOTAL	**3,495**	**15,278**	**20**	**1,563**	**5,922**	**2,564**	**2,394**

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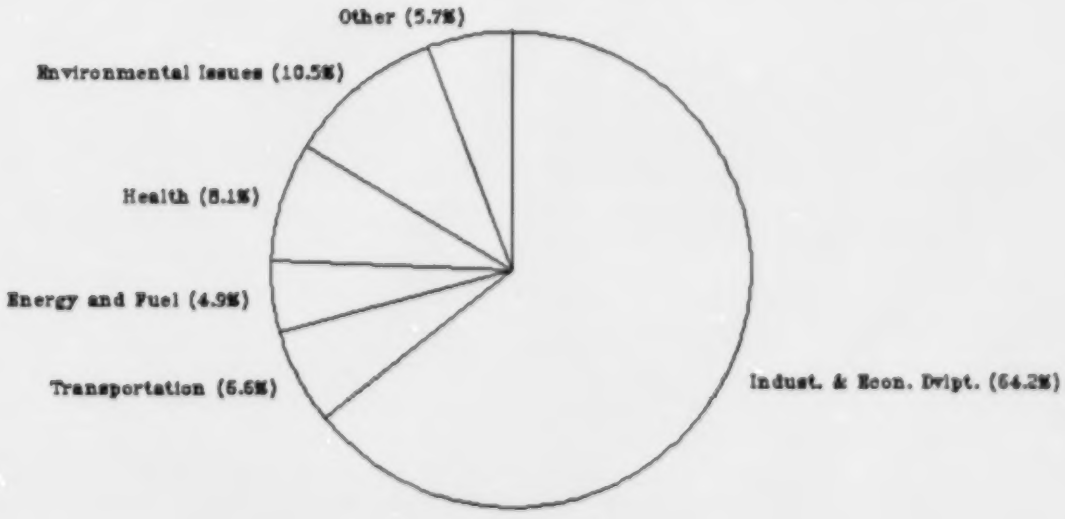
TABLE 36. Objectives of Expenditures in the Natural Sciences, by Department or Agency, 1989-90 - Concluded

Department or agency	Social development		Transport-ation	Wildlife	Other	Total
	Culture, sport and recreation	Urban and regional studies				
	in thousands of dollars					
Departments:						
Agriculture and Food	-	-	-	-	-	13,999
Culture, Multiculturalism and Recreation	594	-	-	-	-	676
Energy and Mines	-	-	-	-	-	2,651
Environment and Public Safety	-	-	-	-	-	1,563
Future Corporation	-	-	-	-	-	1,027
Health	-	-	-	-	-	3,011
Highways and Transportation	-	-	2,638	-	-	2,638
Parks and Renewable Resources	-	35	-	687	297	2,651
Rural Development	-	-	231	-	-	231
Science and Technology	-	-	-	-	-	4,885
Vote 35	-	-	-	-	-	7,336
Sub-total	594	35	2,869	687	297	40,668
Agencies:						
Cancer Foundation	-	-	-	-	-	398
Saskatchewan Crop Insurance Corporation	-	-	-	-	-	135
Saskatchewan Property Management Corporation	-	-	-	-	-	780
Saskatchewan Water Corporation	-	-	-	-	-	1,261
Sub-total	-	-	-	-	-	2,574
TOTAL	**594**	**35**	**2,869**	**687**	**297**	**43,242**

CHART 4

OBJECTIVES OF EXPENDITURES

IN THE NATURAL SCIENCES, 1989-90



Government of Saskatchewan

TABLE 37. Objectives of Expenditures in the Natural Sciences, by Activity, 1989-90

Objective	Intramural		Extramural		Total
	Research and development	Related scientific activities	Research and development	Related scientific activities	
	in thousands of dollars				
Advancement of science	92	24	520	151	787
Communications	-	11	-	70	81
Energy and fuels:					
Conservation	-	9	-	55	64
Fossil fuels	85	171	416	842	1,514
Renewable resources	-	8	-	50	58
Other	-	-	462	-	462
Environmental issues:					
Land	35	720	-	279	1,034
Water	35	457	27	1,281	1,800
Other	30	-	1,694	-	1,724
Health	409	378	2,564	144	3,495
Industrial and economic development:					
Agriculture	251	254	12,111	2,662	15,278
Fisheries	20	-	-	-	20
Forestry	19	1,481	63	-	1,563
Manufacturing	521	1,141	2,722	1,538	5,922
Minerals	-	794	1,416	354	2,564
Other	130	150	1,684	430	2,394
Social development:					
Culture, sport and recreation	-	594	-	-	594
Urban and regional studies	35	-	-	-	35
Transportation	480	2,016	178	195	2,869
Wildlife	487	186	-	14	687
Other	100	194	3	-	297
TOTAL	2,729	8,588	23,860	8,065	43,242

Government of Saskatchewan

TABLE 38. Total Expenditures in the Natural Sciences, by Activity and Performer, 1990-91(e)

Activity	Intramural	Industry	Universities	Hospitals and health organizations	Saskatchewan Research Council (1)	Other	Total
	in thousands of dollars						
Research and development:							
Current expenditures:							
In-house	1,498	...	...	...	...	...	1,498
Contracts	181	3,644	374	-	30	65	4,294
Grants	-	7,465	7,206	597	5,786	405	21,459
Research fellowships	-	-	244	-	-	-	244
Administration of extramural							
R&D programs	1,896	...	...	...	...	...	1,896
Sub-total	3,575	11,109	7,824	597	5,816	470	29,391
Capital expenditures	115	...	...	...	...	...	115
Related scientific activities:							
Current expenditures:							
Education support	-	80	70	-	-	115	265
Technical surveys	4,478	5,452	568	-	45	171	10,714
Information services	25	53	215	-	-	100	393
Special services and studies	2,266	2,379	464	-	45	763	5,917
Museum services	632	-	-	-	-	-	632
Administration of extramural							
R&A programs	359	...	...	...	...	...	359
Sub-total	7,760	7,964	1,317	-	90	1,149	18,280
Capital expenditures	235	...	...	...	...	...	235
TOTAL	**11,685**	**19,073**	**9,141**	**597**	**5,906**	**1,619**	**48,021**

(1) Includes only Provincial Government payments to the SRC.

Government of Saskatchewan

TABLE 39. Total Expenditures in the Natural Sciences, by Department or Agency and Performer, 1990-91(e)

Department or agency	Intramural	Industry	Universities	Hospitals and health organizations	Saskatchewan Research Council (1)	Other	Total
	in thousands of dollars						
Departments:							
Agriculture and Food	446	8,430	6,297	-	50	968	16,191
Culture, Multiculturalism and Recreation	742	-	-	-	-	-	742
Energy and Mines	979	684	330	-	90	61	2,144
Environment and Public Safety	1,375	512	300	-	-	-	2,187
Future Corporation	80	-	89	-	-	568	737
Health	380	-	1,975	597	-	-	2,952
Highways and Transportation	2,351	309	108	-	-	2	2,770
Parks and Renewable Resources	2,595	15	20	-	-	20	2,650
Rural Development	38	191	-	-	-	-	229
Science and Technology	1,849	3,005	-	-	-	-	4,854
Vote 35	-	-	-	-	5,736	-	5,736
Sub-total	10,835	13,146	9,119	597	5,876	1,619	41,192
Agencies:							
Cancer Foundation	400	-	-	-	-	-	400
Saskatchewan Crop Insurance Corporation	140	-	-	-	-	-	140
Saskatchewan Property Management Corporation	260	5,400	22	-	30	-	5,712
Saskatchewan Water Corporation	50	527	-	-	-	-	577
Sub-total	850	5,927	22	-	30	-	6,829
TOTAL	**11,685**	**19,073**	**9,141**	**597**	**5,906**	**1,619**	**48,021**

(1) Includes only Provincial Government payments to the SRC.

Government of Saskatchewan

TABLE 40. Total Expenditures in the Natural Sciences, by Department or Agency and Activity, 1990-91(e)

Department or agency	Research and development			Related scientific activities							Total
	Current	AEP(1)	Capital	Education support	Technical surveys	Information services	Special services and studies	Museum services	AEP(1)	Capital	
	in thousands of dollars										
Departments:											
Agriculture and Food	13,547	-	-	80	473	208	1,831	-	52	-	16,191
Culture and Recreation	85	-	-	-	-	-	-	632	-	25	742
Energy and Mines	263	54	-	-	1,268	6	553	-	-	-	2,144
Environment and Public Safety	300	-	-	-	592	-	1,295	-	-	-	2,187
Future Corporation	79	20	-	185	98	100	195	-	60	-	737
Health	2,417	-	-	-	-	5	530	-	-	-	2,952
Highways and Transportation	625	140	40	-	1,314	4	437	-	-	210	2,770
Parks and Renewable Resources	721	-	25	-	1,884	20	-	-	-	-	2,650
Rural Development	-	-	-	-	-	-	229	-	-	-	229
Science and Technology	2,685	1,652	-	-	-	50	270	-	197	-	4,854
Vote 35	5,736	-	-	-	-	-	-	-	-	-	5,736
Sub-total	26,458	1,866	65	265	5,629	393	5,340	632	309	235	41,192
Agencies:											
Cancer Foundation	350	-	50	-	-	-	-	-	-	-	400
Saskatchewan Crop Insurance Corporation	5	-	-	-	135	-	-	-	-	-	140
Saskatchewan Property Management Corporation	682	30	-	-	4,950	-	-	-	50	-	5,712
Saskatchewan Water Corporation	-	-	-	-	-	-	577	-	-	-	577
Sub-total	1,037	30	50	-	5,085	-	577	-	50	-	6,829
TOTAL	**27,495**	**1,896**	**115**	**265**	**10,714**	**393**	**5,917**	**632**	**359**	**235**	**48,021**

(1) Administration of extramural programs.

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TABLE 41. Total Expenditures on R&D in the Natural Sciences, by Department or Agency and Performer, 1990-91(e)

Department or agency	Intramural	Industry	Universities	Hospitals and health organizations	Saskatchewan Research Council (1)	Other	Total
	in thousands of dollars						
Departments:							
Agriculture and Food	317	7,450	5,327	-	50	403	13,547
Culture, Multiculturalism and Recreation	85	-	-	-	-	-	85
Energy and Mines	54	50	208	-	-	5	317
Environment and Public Safety	-	-	300	-	-	-	300
Future Corpooration	20	-	19	-	-	60	99
Health	-	-	1,820	597	-	-	2,417
Highways and Transportation	386	309	108	-	-	2	805
Parks and Renewable Resources	711	15	20	-	-	-	746
Science and Technology	1,652	2,685	-	-	-	-	4,337
Vote 35	-	-	-	-	5,736	-	5,736
Sub-total	3,225	10,509	7,802	597	5,786	470	28,389
Agencies:							
Cancer Foundation	400	-	-	-	-	-	400
Saskatchewan Crop Insurance Corporation	5	-	-	-	-	-	5
Saskatchewan Property Management Corporation	60	600	22	-	30	-	712
Saskatchewan Water Corporation	-	-	-	-	-	-	-
Sub-total	465	600	22	-	30	-	1,117
TOTAL	**3,690**	**11,109**	**7,824**	**597**	**5,816**	**470**	**29,506**

(1) Includes only Provincial Government payments to the SRC.

Government of Saskatchewan

TABLE 42. Personnel Engaged in Scientific Activities in the Natural Sciences, by Department or Agency and Activity, 1990-91(e)

Department or agency	Research and development				Related scientific activities			
	Scientific & professional	Technical	Other	Total	Scientific & professional	Technical	Other	Total
	person-years							
Departments:								
Agriculture and Food	-	-	-	-	1	-	1	2
Culture, Multiculturalism and Recreation	1	-	-	1	4	1	7	12
Energy and Mines	-	-	-	-	8	-	6	14
Environment and Public Safety	-	-	-	-	5	11	-	16
Future Corporation	-	-	-	-	-	-	-	-
Health	-	-	-	-	2	-	1	3
Highways and Transportation	2	2	1	5	8	13	11	32
Parks and Renewable Resources	8	3	1	12	8	30	1	39
Rural Development	-	-	-	-	-	1	-	1
Science and Technology	-	-	-	-	2	-	-	2
Sub-total	11	5	2	18	38	56	27	121
Agencies:								
Cancer Foundation	-	16	-	16	-	-	-	-
Saskatchewan Crop Insurance Corporation	-	-	-	-	2	1	2	5
Saskatchewan Property Management Corporation	1	2	-	3	1	3	-	4
Saskatchewan Water Corporation	-	-	-	-	-	1	-	1
Sub-total	1	18	-	19	3	5	2	10
TOTAL	**12**	**23**	**2**	**37**	**41**	**61**	**29**	**131**

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TABLE 42. Personnel Engaged in Scientific Activities in the Natural Sciences, by Department or Agency and Activity, 1990-91(e) - Concluded

Department or agency	Administration of extramural programs				Total natural science activities			
	Scientific & professional	Technical	Other	Total	Scientific & professional	Technical	Other	Total
	person-years							
Departments:								
Agriculture and Food	4	3	4	11	5	3	5	13
Culture, Multiculturalism and Recreation	-	-	-	-	5	1	7	13
Energy and Mines	2	-	2	4	10	-	8	18
Environment and Public Safety	-	-	-	-	5	11	-	16
Future Corporation	-	-	2	2	-	-	2	2
Health	-	-	-	-	2	-	1	3
Highways and Transportation	3	2	3	8	13	17	15	45
Parks and Renewable Resources	1	1	-	2	17	34	2	53
Rural Development	-	-	-	-	-	1	-	1
Science and Technology	11	-	4	15	13	-	4	17
Sub-total	21	6	15	42	70	67	44	181
Agencies:								
Cancer Foundation	-	-	-	-	-	16	-	16
Saskatchewan Crop Insurance Corporation	-	-	-	-	2	1	2	5
Saskatchewan Property Management Corporation	1	-	-	1	3	5	-	8
Saskatchewan Water Corporation	-	-	-	-	-	1	-	1
Sub-total	1	-	-	1	5	23	2	30
TOTAL	**22**	**6**	**15**	**43**	**75**	**90**	**46**	**211**

Government of Saskatchewan

TABLE 43. Objectives of Expenditures in the Natural Sciences, by Department or Agency, 1990-91(e)

Department or agency	Advancement of science	Communications	Energy and fuels				Environmental issues		
			Conservation	Fossil fuels	Renewable Resources	Other	Land	Water	Other
	in thousands of dollars								
Departments:									
Agriculture and Food	-	-	-	-	-	-	-	-	-
Culture, Multiculturalism and Recreation	85	-	-	-	-	-	-	-	-
Energy and Mines	-	-	-	951	-	-	-	-	-
Environment and Public Safety	-	-	-	-	-	-	1,217	330	300
Future Corporation	113	39	66	11	83	-	244	5	-
Health	-	-	-	-	-	-	-	-	-
Highways and Transportation	-	-	-	-	-	-	-	-	-
Parks and Renewable Resources	-	-	-	-	-	-	-	-	110
Rural Development	-	-	-	-	-	-	-	-	-
Science and Technology	-	-	-	-	-	-	-	-	-
Vote 35	267	-	-	-	-	361	-	-	1,090
Sub-total	365	39	66	962	83	361	1,461	339	1,500
Agencies:									
Cancer Foundation	-	-	-	-	-	-	-	-	-
Saskatchewan Crop Insurance Corporation	-	-	-	-	-	-	-	-	-
Saskatchewan Property Management Corporation	-	-	-	-	-	-	-	-	-
Saskatchewan Water Corporation	-	-	-	-	-	-	-	977	-
Sub-total	-	-	-	-	-	-	-	977	-
TOTAL	365	39	66	962	83	361	1,461	913	1,500

Government of Saskatchewan

TABLE 43. Objectives of Expenditures in the Natural Sciences by Department or Agency, 1990-91(e) - Continued

Department or agency	Health	Industrial and economic development				
		Agriculture	Forestry	Manufacturing	Minerals	Other
	in thousands of dollars					
Departments:						
Agriculture and Food	-	16,191	-	-	-	-
Culture, Multiculturalism and Recreation	-	-	-	-	-	-
Energy and Mines	-	-	-	-	1,193	-
Environment and Public Safety	250	-	-	-	-	90
Future Corporation	49	112	19	-	-	-
Health	2,952	-	-	-	-	-
Highways and Transportation	-	-	-	-	-	-
Parks and Renewable Resources	-	-	1,912	-	-	-
Rural Development	-	-	-	-	-	-
Science and Technology	-	-	-	4,834	-	-
Vote 35	-	749	-	803	1,108	1,262
Sub-total	3,251	17,048	1,931	5,637	2,301	1,352
Agencies:						
Cancer Foundation	400	-	-	-	-	-
Saskatchewan Crop Insurance Corporation	-	140	-	-	-	-
Saskatchewan Property Management Corporation	-	-	-	-	-	5,712
Saskatchewan Water Corporation	-	-	-	-	-	-
Sub-total	400	140	-	-	-	5,712
TOTAL	3,651	17,188	1,931	5,637	2,301	7,064

Government of Saskatchewan

TABLE 43. Objectives of Expenditures in the Natural Sciences by Department or Agency 1990-91(e) - Concluded

Department or agency	Social development		Transportation	Wildlife	Other	Total
	Culture, sport and recreation	Urban and regional studies				
	in thousands of dollars					
Departments:						
Agriculture and Food	-	-	-	-	-	14,191
Culture, Multiculturalism and Recreation	637	-	-	-	-	742
Energy and Mines	-	-	-	-	-	3,144
Environment and Public Safety	-	-	-	-	-	3,187
Future Corporation	-	-	-	-	-	737
Health	-	-	-	-	-	2,952
Highways and Transportation	-	-	2,770	-	-	2,770
Parks and Renewable Resources	-	40	-	688	300	2,650
Rural Development	-	-	229	-	-	229
Science and Technology	-	-	-	-	-	4,894
Vote 38	-	-	-	-	-	5,736
Sub-total	637	40	2,999	688	300	41,192
Agencies:						
Cancer Foundation	-	-	-	-	-	600
Saskatchewan Crop Insurance Corporation	-	-	-	-	-	140
Saskatchewan Property Management Corporation	-	-	-	-	-	9,713
Saskatchewan Water Corporation	-	-	-	-	-	577
Sub-total	-	-	-	-	-	6,829
TOTAL	637	40	2,999	688	300	48,021

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TABLE 44. Objectives of Expenditures in the Natural Sciences, by Activity, 1989-90-91(e)

Objective	Intramural		Extramural		Total
	Research and development	Related scientific activities	Research and development	Related scientific activities	
	in thousands of dollars				
Advancement of science	90	9	384	80	565
Communications	-	3	-	32	35
Energy and fuels:					
Conservation	-	6	-	60	66
Fossil fuels	94	109	263	537	962
Renewable resources	-	8	-	73	81
Other	-	-	361	-	361
Environmental issues:					
Land	-	1,126	-	337	1,461
Water	-	235	-	677	912
Other	110	-	1,390	-	1,500
Health	699	300	2,452	410	3,851
Industrial and economic development:					
Agriculture	324	274	13,985	2,609	17,192
Forestry	4	1,680	47	-	1,531
Manufacturing	1,452	197	3,488	320	5,457
Minerals	-	817	1,100	376	2,301
Other	60	290	1,914	4,800	7,064
Social development:					
Culture, sport and recreation	-	637	-	-	637
Urban and regional studies	40	-	-	-	40
Transportation	386	2,003	419	191	2,999
Wildlife	481	207	-	20	688
Other	100	197	3	-	300
TOTAL	3,690	7,995	25,816	10,529	48,031

SOCIAL SCIENCES AND HUMANITIES

Government of Saskatchewan

TABLE 45. Total Expenditures in the Social Sciences and Humanities, by Activity, 1983-84 to 1990-91(e)

Activity	1983-84	1984-85	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91(e)
	in thousands of dollars							
Research and development:								
Current expenditures:								
In-house	320	271	288	398	152	448	166	208
Contracts	255	107	85	80	82	329	699	369
Grants	207	298	301	301	398	427	2,154	2,935
Research fellowships	-	-	-	-	-	-	91	54
Administration of extramural R&D programs	...	...	...	...	-	35	40	11
Sub-total	782	676	674	779	632	1,239	3,110	3,177
Capital expenditures	-	42	3	-	-	-	-	-
Related scientific activities:								
Current expenditures	10,803	15,630	18,423	15,791	8,397	8,914	10,076	8,822
Administration of extramural R&A programs	...	...	...	...	28	100	255	220
Sub-total	10,803	15,630	18,423	15,791	8,425	9,014	10,331	9,042
Capital expenditures	93	588	13	10	-	255	1,893	1,903
TOTAL	11,678	16,936	19,113	16,580	9,057	10,108	15,334	13,722

(1) Administration of extramural programs was not reported separately prior to 1987-88.

CHART 5

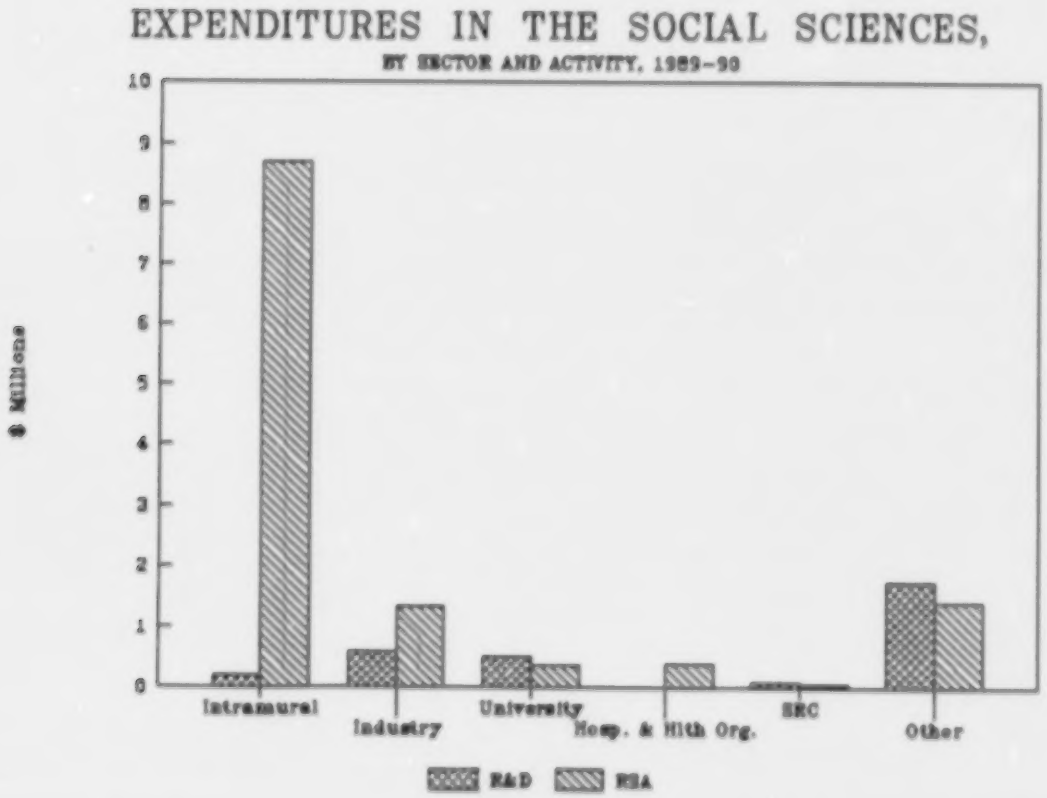

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TABLE 46. Total Expenditures in the Social Sciences and Humanities, by Department or Agency, 1983-84 to 1990-91(e)

Department or agency	1983-84	1984-85	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91(e)
	in thousands of dollars							
Departments:								
Advanced Education and Manpower	170	1,328	2,538	3,608	...	...	...	...
Agriculture and Food	971	537	995	679	550	579	401	113
Consumer and Commercial Affairs	75	295	50	40	40	40	40	40
Co-operation and Co-operative Development	219	224	232	132	...	...	...	...
Culture, Multiculturalism and Recreation	...	...	...	...	...	...	1,650	1,567
Culture and Recreation	192	249	301	340	...	...	...	...
Economic Development and Trade	556	647	756	...	...	...	...	...
Economic Development and Tourism	...	...	...	...	234	753	737	690
Education	158	200	322	231	725	1,092	3,660	3,142
Executive Council	260	536	465	278	194	166	122	95
Finance	...	1,952	1,132	1,501	1,762	1,676	1,679	1,806
Future Corporation	...	...	...	...	...	...	693	535
Health	2,665	2,685	2,596	1,761	1,584	1,467	3,427	3,403
Human Resources, Labour and Employment	...	...	...	...	316	429	800	690
Indian and Native Affairs Secretariat	188	205	307	262	...	...	...	...
Justice	1,295	1,495	2,236	383	190	135	258	174
Labour	675	212	278	509	...	...	...	...
Parks and Renewable Resources	256	...	...	...	...	...	100	100
Parks, Recreation and Culture	...	...	...	...	399	1,796	...	...
Public Service Commission	...	202	215	112	66	66	125	125
Revenue and Financial Services	110	102	228	373	...	...	...	...
Rural Development	...	67	49	46	39	-	95	95
Saskatchewan Library	...	30	112	149	...	...	...	...
Saskatchewan Telephones	...	...	...	16	...	...	...	...
Science and Technology	13	42	...	310	321	202	232	-
Social Services	1,824	2,892	3,757	3,220	1,428	383	129	24
Supply and Services	420	1,514	119	55	...	...	...	...
Tourism and Small Business	80	202	136	338	...	...	...	...
Urban Affairs	460	783	615	637	182	128	127	218
Women's Secretariat	...	30	30	24	...	...	...	...
Sub-total	10,586	15,561	17,259	14,601	7,980	8,992	14,075	12,494
Agencies:								
Employment Development Agency	...	...	379	562	...	...	...	...
Highway Traffic Board	90	84	84	...	...	...	...	...
Saskatchewan Archives Board	1,002	920	1,102	1,023	683	1,027	1,053	1,015
Saskatchewan Assessment Management Agency	...	53	58	13	...	...	...	...
Saskatchewan Housing Corporation	...	318	234	181	194	129	396	213
Sub-total	1,092	1,375	1,854	1,779	1,077	1,156	1,259	1,228
TOTAL	11,678	16,936	19,113	16,380	9,057	10,148	15,334	13,722

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TABLE 47. Total Expenditures in the Social Sciences and Humanities, by Performer, 1983-84 TO 1990-91(e)

Performer	1983-84	1984-85	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91(e)
	In thousands of dollars							
Intramural	9,076	11,583	11,695	11,110	6,648	7,876	8,878	7,827
Industry	1,230	3,112	5,105	2,831	1,397	1,021	1,903	1,683
Universities	694	788	1,879	1,753	612	583	860	892
Hospitals and health organizations	115	-	-	5	-	58	392	485
Saskatchewan Research Council (1)	2	60	8	-	-	-	143	90
Other	601	1,393	625	881	600	560	3,158	3,035
TOTAL	11,678	16,936	19,113	16,580	9,057	10,188	15,334	13,722

(1) Includes only Provincial Government payments to the SRC.

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TABLE 48. Total Expenditures on R&D in the Social Sciences and Humanities, by Department or Agency, 1983-84 to 1990-91(e)

Department or agency	1983-84	1984-85	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91(e)
	In thousands of dollars							
Departments:								
Agriculture and Food	100	...	...	...	...	76	...	...
Consumer and Commercial Affairs	12	...	...	...	...	...	...	...
Culture, Multiculturalism and Recreation	...	...	...	...	...	...	466	223
Culture and Recreation	8	12	15	120	...	...	...	...
Economic Development and Tourism	...	...	...	...	...	476	535	490
Education	...	...	...	...	...	63	226	312
Executive Council	65	181	142	80	82	44	...	...
Finance	...	...	...	...	...	...	...	43
Future Corporation	...	...	...	...	...	...	75	75
Health	274	352	397	392	283	89	1,738	2,014
Parks and Renewable Resources	90	...	...	...	...	...	...	...
Parks, Recreation and Culture	...	...	...	...	152	191	...	...
Rural Development	...	...	...	...	...	...	90	90
Saskatchewan Library	...	...	19	74	...	...	...	...
Social Services	133	141	146	113	115	298	...	...
Supply and Services	180	32	...	...	...	...	...	...
Sub-total	782	718	677	779	632	1,239	3,110	3,177
TOTAL	782	718	677	779	632	1,239	3,110	3,177

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TABLE 49. Total Expenditures on R&D in the Social Sciences and Humanities, by Performer, 1983-84 to 1990-91

Performer	1983-84	1984-85	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91(e)
	in thousands of dollars							
Intramural	320	313	291	398	152	483	206	219
Industry	130	107	77	72	80	439	580	400
Universities	190	234	269	299	390	190	499	599
Hospitals and health organizations	107	-	-	-	-	58	-	-
Saskatchewan Research Council (1)	-	37	-	-	-	-	90	90
Other	35	27	40	10	10	69	1,735	1,869
TOTAL	**782**	**718**	**677**	**779**	**632**	**1,239**	**3,110**	**3,177**

(1) Includes only Provincial Government payments to the SRC.

TABLE 50. Personnel Engaged in Scientific Activities in the Social Sciences and Humanities, by Activity and by Category, 1983-84 to 1990-91

Activity and category	1983-84	1984-85	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91(e)
	person years							
Research and development:								
Scientific and professional	7	5	3	5	3	9	3	4
Technical	1	3	4	3	-	2	-	-
Other	-	1	-	-	-	-	-	-
Sub-total	8	9	7	8	3	11	3	4
Related scientific activities:								
Scientific and professional	134	156	192	171	103	96	89	86
Technical	24	13	17	17	13	10	7	8
Other	69	74	78	39	30	34	38	32
Sub-total	227	243	287	227	146	140	134	126
Administration of extramural programs:								
Scientific and professional	...	...	...	...	1	2	2	3
Technical	...	...	...	...	-	1	-	-
Other	...	...	...	...	-	-	3	1
Sub-total	...	...	...	...	1	3	5	4
Total social science activities:								
Scientific and professional	141	161	195	176	107	107	94	93
Technical	25	16	21	20	13	13	7	8
Other	69	75	78	39	30	34	41	33
TOTAL	**235**	**252**	**294**	**235**	**150**	**154**	**142**	**134**

CHART 6

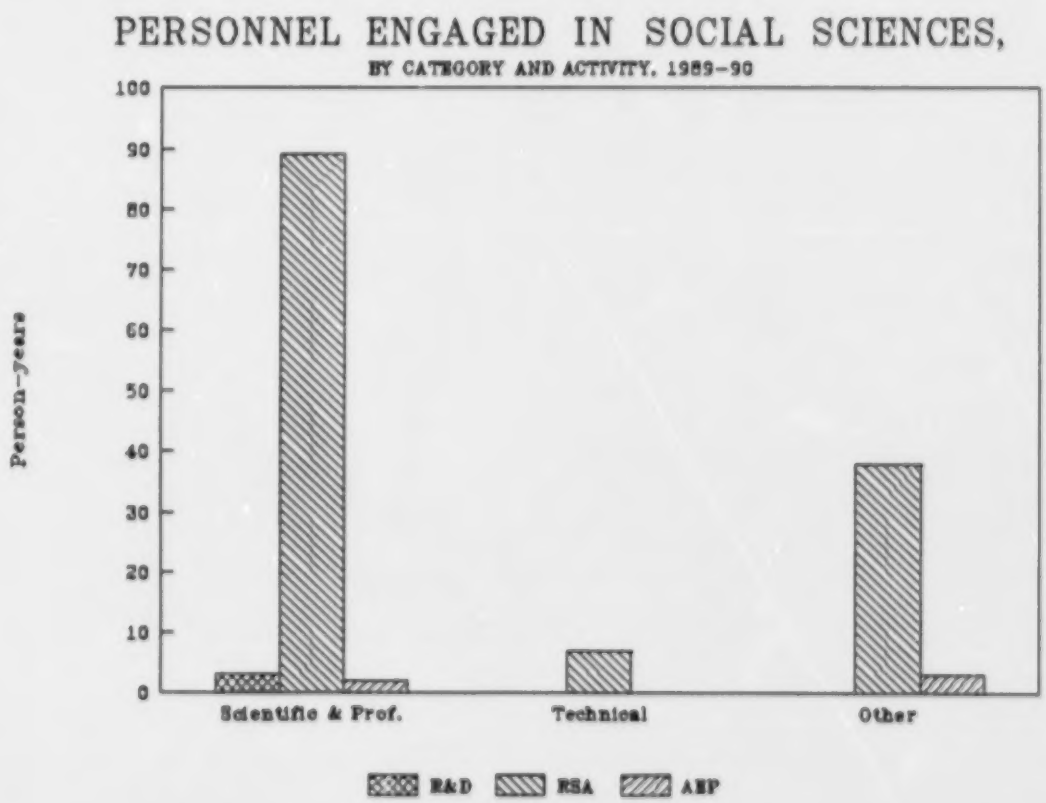

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TABLE 51. Total Expenditures in the Social Sciences and Humanities, by Sources of Funds, 1989-90

Department or agency	Departmental budget	Transfers from other departments	Transfers from federal government	From trust funds	From other sources	Total
	in thousands of dollars					
Departments:						
Agriculture and Food	401	-	-	-	-	401
Culture, Multiculturalism and Recreation	1,350	-	20	-	280	1,650
Consumer and Commercial Affairs	40	-	-	-	-	40
Economic Development and Tourism	607	27	-	-	103	737
Education	3,460	-	-	-	-	3,460
Executive Council	122	-	-	-	-	122
Finance	1,679	-	-	-	-	1,679
Future Corporation	693	-	-	-	-	693
Health	3,392	-	10	-	25	3,427
Human Resources, Labour and Employment	800	-	-	-	-	800
Justice	258	-	-	-	-	258
Parks and Renewable Resources	100	-	-	-	-	100
Public Service Commission	125	-	-	-	-	125
Rural Development	95	-	-	-	-	95
Science and Technology	232	-	-	-	-	232
Social Services	18	-	111	-	-	129
Urban Affairs	127	-	-	-	-	127
Sub-total	13,499	27	141	-	408	14,075
Agencies:						
Saskatchewan Archives Board	862	28	68	-	95	1,053
Saskatchewan Housing Corporation	206	-	-	-	-	206
Sub-total	1,068	28	68	-	95	1,259
TOTAL	**14,567**	**55**	**209**	**-**	**503**	**15,334**

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TABLE 52. Total Expenditures in the Social Sciences and Humanities, by Activity and Performer, 1989-90

Activity	Intramural	Industry	Universities	Hospitals and health organisations	Saskatchewan Research Council (1)	Other	Total
	in thousands of dollars						
Research and development:							
Current expenditures:							
In-house	166	...	...	...	...	...	166
Contracts	-	271	229	-	90	113	699
Grants	-	309	223	-	-	1,622	2,154
Research fellowships	-	-	51	-	-	-	51
Administration of extramural R&D programs	40	...	...	...	...	...	40
Sub-total	206	580	499	-	90	1,735	3,110
Capital expenditures	-	...	...	...	...	...	-
Related scientific activities:							
Current expenditures	6,524	1,323	361	392	53	1,423	10,076
Administration of extramural R&D programs	255	...	...	...	...	...	255
Sub-total	6,779	1,323	361	392	53	1,423	10,331
Capital expenditures	1,893	...	...	...	...	...	1,893
TOTAL	**8,878**	**1,903**	**860**	**392**	**143**	**3,158**	**15,334**

(1) Includes only Provincial Government payments to the SRC.

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TABLE 53. Total Expenditures in the Social Sciences and Humanities, by Department or Agency and Performer, 1989-90

Department or agency	Intramural	Industry	Universities	Hospitals and health organizations	Saskatchewan Research Council (1)	Other	Total
	in thousands of dollars						
Departments:							
Agriculture and Food	280	121	-	-	-	-	401
Consumer and Commercial Affairs	40	-	-	-	-	-	40
Culture, Multiculturalism and Recreation	779	82	249	-	7	533	1,650
Economic Development and Tourism	152	553	12	-	-	20	737
Education	2,286	1,055	-	-	-	119	3,460
Executive Council	-	-	-	-	46	76	122
Finance	1,629	50	-	-	-	-	1,679
Future Corporation	70	-	-	-	-	623	693
Health	1,047	-	488	392	-	1,500	3,427
Human Resources, Labour and Employment	550	-	-	-	-	250	800
Justice	258	-	-	-	-	-	258
Parks and Renewable Resources	97	3	-	-	-	-	100
Public Service Commission	118	-	-	-	-	7	125
Rural Development	5	-	-	-	90	-	95
Science and Technology	232	-	-	-	-	-	232
Social Services	18	-	111	-	-	-	129
Urban Affairs	78	19	-	-	-	30	127
Sub-total	7,639	1,883	860	392	143	3,158	14,075
Agencies:							
Saskatchewan Archives Board	1,053	-	-	-	-	-	1,053
Saskatchewan Housing Corporation	186	20	-	-	-	-	206
Sub-total	1,239	20	-	-	-	-	1,259
TOTAL	**8,878**	**1,903**	**860**	**392**	**143**	**3,158**	**15,334**

(1) Includes only Provincial Government payments to the SRC.

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TABLE 54. Total Expenditures in the Social Sciences and Humanities, by Department or Agency and Activity, 1989-90

Department or agency	Research and development			Related scientific activities			Total
	Current	AEP(1)	Capital	Current	AEP(1)	Capital	
	in thousands of dollars						
Departments:							
Agriculture and Food	-	-	-	401	-	-	401
Consumer and Commercial Affairs	-	-	-	40	-	-	40
Culture, Multiculturalism and Recreation	431	15	-	1,136	65	3	1,650
Economic Development and Tourism	510	25	-	202	-	-	737
Education	226	-	-	1,224	120	1,890	3,460
Executive Council	-	-	-	122	-	-	122
Finance	-	-	-	1,679	-	-	1,679
Future Corporation	75	-	-	548	70	-	693
Health	1,738	-	-	1,689	-	-	3,427
Human Resources, Labour and Employment	-	-	-	800	-	-	800
Justice	-	-	-	258	-	-	258
Parks and Renewable Resources	-	-	-	100	-	-	100
Public Service Commission	-	-	-	125	-	-	125
Rural Development	90	-	-	5	-	-	95
Science and Technology	-	-	-	232	-	-	232
Social Services	-	-	-	129	-	-	129
Urban Affairs	-	-	-	127	-	-	127
Sub-total	3,070	40	-	8,817	255	1,893	14,075
Agencies:							
Saskatchewan Archives Board	-	-	-	1,053	-	-	1,053
Saskatchewan Housing Corporation	-	-	-	206	-	-	206
Sub-total	-	-	-	1,259	-	-	1,259
TOTAL	**3,070**	**40**	**-**	**10,076**	**255**	**1,893**	**15,334**

(1) Administration of extramural programs.

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TABLE 55. Total Expenditures on R&D in the Social Sciences and Humanities, by Department or Agency and Performer, 1989-90

Department or agency	Intramural	Industry	Universities	Hospitals and health organizations	Saskatchewan Research Council (1)	Other	Total
	in thousands of dollars						
Departments:							
Culture, Multiculturalism and Recreation	68	82	249	-	-	47	446
Economic Development and Tourism	25	498	12	-	-	-	535
Education	113	-	-	-	-	113	226
Future Corporation	-	-	-	-	-	75	75
Health	-	-	238	-	-	1,500	1,738
Rural Development	-	-	-	-	90	-	90
TOTAL	**206**	**580**	**499**	**-**	**90**	**1,735**	**3,110**

(1) Includes only Provincial Government payments to the SRC.

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TABLE 56. Intramural Expenditures in the Social Sciences and Humanities, by Department or Agency and Type of Expenditure, 1989-90

Department or agency	Current expenditures		Capital expenditures	Total
	Personnel costs	Other costs		
	in thousands of dollars			
Departments:				
Agriculture and Food	280	-	-	280
Consumer and Commercial Affairs	36	4	-	40
Culture, Multiculturalism and Recreation	588	188	3	779
Economic Development and Tourism	118	34	-	152
Education	333	63	1,890	2,286
Future Corporation	70	-	-	70
Finance	1,391	238	-	1,629
Health	634	413	-	1,047
Human Resources, Labour and Employment	380	170	-	550
Justice	258	-	-	258
Parks and Renewable Resources	90	7	-	97
Public Service Commission	48	70	-	118
Rural Development	4	1	-	5
Science and Technology	168	64	-	232
Social Services	18	-	-	18
Urban Affairs	78	-	-	78
Sub-total	4,494	1,252	1,893	7,639
Agencies:				
Saskatchewan Archives Board	790	263	-	1,053
Saskatchewan Housing Corporation	170	16	-	186
Sub-total	960	279	-	1,239
TOTAL	**5,454**	**1,531**	**1,893**	**8,878**

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TABLE 57. Personnel Engaged in Scientific Activities in the Social Sciences and Humanities, by Department or Agency and Activity, 1989-90

Department or agency	Research and development				Related scientific activities			
	Scientific & professional	Technical	Other	Total	Scientific & professional	Technical	Other	Total
	person-years							
Departments:								
Agriculture and Food	-	-	-	-	4	-	4	8
Consumer and Commercial Affairs	-	-	-	-	1	-	-	1
Culture, Multiculturalism and Recreation	-	-	-	-	5	2	7	14
Economic Development and Tourism	-	-	-	-	2	-	-	2
Education	3	-	-	3	5	-	-	5
Finance	-	-	-	-	23	-	6	29
Future Corporation	-	-	-	-	-	-	-	-
Health	-	-	-	-	12	3	2	17
Human Resources, Labour and Employment	-	-	-	-	7	-	3	10
Justice	-	-	-	-	5	-	-	5
Parks and Renewable Resources	-	-	-	-	2	-	-	2
Public Service Commission	-	-	-	-	-	2	-	2
Science and Technology	-	-	-	-	2	-	1	3
Social Services	-	-	-	-	1	-	-	1
Urban Affairs	-	-	-	-	2	-	-	2
Sub-total	3	-	-	3	71	7	23	101
Agencies:								
Saskatchewan Archives Board	-	-	-	-	14	-	15	29
Saskatchewan Housing Corporation	-	-	-	-	4	-	-	4
Sub-total	-	-	-	-	18	-	15	33
TOTAL	**3**	**-**	**-**	**3**	**89**	**7**	**38**	**134**

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TABLE 57. Personnel Engaged in Scientific Activities in the Social Sciences and Humanities, by Department or Agency and Activity, 1989-90 - Concluded

Department or agency	Administration of extramural programs				Total social science activities			
	Scientific & professional	Technical	Other	Total	Scientific & professional	Technical	Other	Total
	person-years							
Departments:								
Agriculture and Food	-	-	-	-	4	-	4	8
Consumer and Commercial Affairs	-	-	-	-	1	-	-	1
Culture, Multiculturalism and Recreation	1	-	-	1	6	2	7	15
Economic Development and Tourism	-	-	1	1	2	-	1	3
Education	1	-	-	1	9	-	-	9
Finance	-	-	-	-	23	-	6	29
Future Corporation	-	-	2	2	-	-	2	2
Health	-	-	-	-	12	3	2	17
Human Resources, Labour and Employment	-	-	-	-	7	-	3	10
Justice	-	-	-	-	5	-	-	5
Parks and Renewable Resources	-	-	-	-	2	-	-	2
Public Service Commission	-	-	-	-	-	2	-	2
Science and Technology	-	-	-	-	2	-	1	3
Social Services	-	-	-	-	1	-	-	1
Urban Affairs	-	-	-	-	2	-	-	2
Sub-total	2	-	3	5	76	7	26	109
Agencies:								
Saskatchewan Archives Board	-	-	-	-	14	-	15	29
Saskatchewan Housing Corporation	-	-	-	-	4	-	-	4
Sub-total	-	-	-	-	18	-	15	33
TOTAL	**2**	**-**	**3**	**5**	**94**	**7**	**41**	**142**

CHART 7

OBJECTIVES OF EXPENDITURES

IN THE SOCIAL SCIENCES, 1989-90

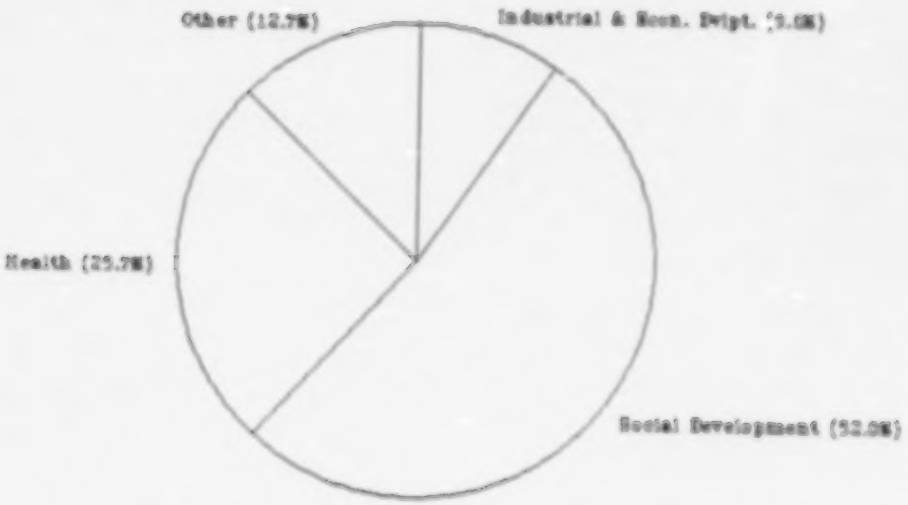

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TABLE 58. Objectives of Expenditures in the Social Sciences and Humanities, by Department or Agency, 1989-90

Department or agency	Advancement of Science	Communications	Health	Industrial and economic development		
				Agriculture	Manufacturing	Other
	in thousands of dollars					
Departments:						
Agriculture and Food	-	-	-	601	-	-
Consumer and Commercial Affairs	-	-	-	-	-	-
Culture, Multiculturalism and Recreation	71	-	100	-	-	-
Economic Development and Tourism	-	-	-	-	631	361
Education	-	-	-	-	-	-
Executive Council	122	-	-	-	-	-
Finance	-	-	-	-	-	-
Future Corporation	-	50	-	65	-	-
Health	-	-	3,427	-	-	-
Human Resources, Labour and Employment	-	-	410	-	-	-
Justice	-	-	-	-	-	-
Parks and Renewable Resources	-	-	-	-	-	-
Public Service Commission	-	-	-	-	-	-
Rural Development	-	-	-	-	-	-
Science and Technology	-	-	-	-	-	95
Social Services	-	-	-	-	232	-
Urban Affairs	-	-	-	-	-	-
Sub-total	193	50	3,937	666	693	356
Agencies:						
Saskatchewan Archives Board	-	-	-	-	-	-
Saskatchewan Housing Corporation	-	-	-	-	-	-
Sub-total	-	-	-	-	-	-
TOTAL	193	50	3,937	666	693	356

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TABLE 58. Objectives of Expenditures in the Social Sciences and Humanities, by Department or Agency, 1989-90 - Concluded

Department or agency	Social development					Other	Total
	Culture, sport and recreation	Education	Human resources	Urban and regional studies	Other		
	in thousands of dollars						
Departments:							
Agriculture and Food	-	-	-	-	-	-	601
Consumer and Commercial Affairs	-	-	-	-	20	20	40
Culture, Multiculturalism and Recreation	1,275	-	10	-	194	-	1,650
Economic Development and Tourism	55	-	-	-	-	-	737
Education	-	3,440	-	-	-	-	3,440
Executive Council	-	-	-	-	-	-	122
Finance	-	-	-	-	-	1,670	1,670
Future Corporation	100	200	-	230	-	-	695
Health	-	-	-	-	-	-	3,427
Human Resources, Labour and Employment	-	-	390	-	-	-	800
Justice	-	-	-	-	250	-	250
Parks and Renewable Resources	100	-	-	-	-	-	100
Public Service Commission	-	-	125	-	-	-	125
Rural Development	-	-	-	-	-	-	95
Science and Technology	-	-	-	-	-	-	232
Social Services	-	-	-	-	139	-	139
Urban Affairs	-	-	-	127	-	-	127
Sub-total	1,530	3,708	525	397	601	1,690	16,070
Agencies:							
Saskatchewan Archives Board	1,053	-	-	-	-	-	1,053
Saskatchewan Housing Corporation	-	-	-	-	206	-	206
Sub-total	1,053	-	-	-	206	-	1,259
TOTAL	2,583	3,708	525	397	807	1,690	19,336

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TABLE 10. Objectives of Expenditures in the Social Sciences and Humanities, by Activity, 1989-90

Objective	Intramural		Extramural		Total
	Research and development	Related scientific activities	Research and development	Related scientific activities	
	In thousands of dollars				
Advancement of science	21	10	40	122	193
Communications	-	-	-	90	90
Health	-	1,207	1,039	692	2,937
Industrial and economic development:					
Agriculture	-	280	-	186	466
Manufacturing	-	232	421	-	653
Other	25	122	120	79	356
Social development:					
Culture, sport and recreation	13	1,791	280	589	2,983
Education	113	2,263	190	1,144	3,700
Human resources	-	508	10	7	525
Urban and regional studies	-	78	-	279	357
Other	34	552	83	130	807
Other	-	1,640	-	50	1,690
TOTAL	206	8,673	2,984	3,982	15,346

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TABLE 60. Total Expenditures in the Social Sciences and Humanities, by Activity and Performer, 1990-91(e)

Activity	Intramural	Industry	Universities	Hospitals and health organizations	Saskatchewan Research Council (1)	Other	Total
	in thousands of dollars						
Research and development:							
Current expenditures:							
In-house	208	...	...	...	...	...	208
Contracts	-	40	25	-	90	214	369
Grants	-	360	520	-	-	1,655	2,535
Research fellowships	-	-	54	-	-	-	54
Administration of extramural R&D programs	11	...	...	...	...	...	11
Sub-total	219	400	599	-	90	1,869	3,177
Capital expenditures	-	...	...	...	...	...	-
Related scientific activities:							
Current expenditures	5,885	1,083	293	405	-	1,156	8,822
Administration of extramural R&D programs	220	...	...	...	...	...	220
Sub-total	6,105	1,083	293	405	-	1,156	9,042
Capital expenditures	1,503	...	...	...	...	...	1,503
TOTAL	**7,827**	**1,483**	**892**	**405**	**90**	**3,025**	**13,722**

(1) Includes only Provincial Government payments to the SRC.

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TABLE 61. Total Expenditures in the Social Sciences and Humanities, by Department or Agency and Performer, 1990-91(e)

Department or agency	Intramural	Industry	Universities	Hospitals and health organizations	Saskatchewan Research Council (1)	Other	Total
	in thousands of dollars						
Departments:							
Agriculture and Food	84	-	28	-	-	-	112
Consumer and Commercial Affairs	35	5	-	-	-	-	40
Culture, Multiculturalism and Recreation	989	40	45	-	-	493	1,567
Economic Development and Tourism	-	360	40	-	-	-	400
Education	1,930	1,000	-	-	-	212	3,142
Executive Council	-	-	-	-	-	55	55
Finance	1,756	50	-	-	-	-	1,806
Future Corporation	35	-	-	-	-	500	535
Health	734	-	764	405	-	1,500	3,403
Human Resources, Labour and Employment	498	-	-	-	-	200	698
Justice	174	-	-	-	-	-	174
Parks and Renewable Resources	97	3	-	-	-	-	100
Public Service Commission	118	-	-	-	-	7	125
Rural Development	5	-	-	-	90	-	95
Social Services	9	-	15	-	-	-	24
Urban Affairs	195	5	-	-	-	58	258
Sub-total	6,619	1,463	892	405	90	3,025	12,494
Agencies:							
Saskatchewan Archives Board	1,015	-	-	-	-	-	1,015
Saskatchewan Housing Corporation	193	20	-	-	-	-	213
Sub-total	1,208	20	-	-	-	-	1,228
TOTAL	**7,827**	**1,483**	**892**	**405**	**90**	**3,025**	**13,722**

(1) Includes only Provincial Government payments to the SRC.

Government of Saskatchewan

TABLE 62. Total Expenditures in the Social Sciences and Humanities, by Department or Agency and Activity, 1990-91(e)

Department or agency	Research and development			Related scientific activities			Total
	Current	AEP(1)	Capital	Current	AEP(1)	Capital	
	in thousands of dollars						
Departments:							
Agriculture and Food	-	-	-	112	-	-	112
Consumer and Commercial Affairs	-	-	-	40	-	-	40
Culture, Multiculturalism and Recreation	212	11	-	1,276	65	3	1,567
Economic Development and Tourism	400	-	-	-	-	-	400
Education	312	-	-	1,210	120	1,500	3,142
Executive Council	-	-	-	55	-	-	55
Finance	63	-	-	1,743	-	-	1,806
Future Corporation	75	-	-	425	35	-	535
Health	2,014	-	-	1,389	-	-	3,403
Human Resources, Labour and Employment	-	-	-	698	-	-	698
Justice	-	-	-	174	-	-	174
Parks and Renewable Resources	-	-	-	100	-	-	100
Public Service Commission	-	-	-	125	-	-	125
Rural Development	90	-	-	5	-	-	95
Social Services	-	-	-	24	-	-	24
Urban Affairs	-	-	-	218	-	-	218
Sub-total	3,166	11	-	7,994	220	1,503	12,494
Agencies:							
Saskatchewan Archives Board	-	-	-	1,015	-	-	1,015
Saskatchewan Housing Corporation	-	-	-	213	-	-	213
Sub-total	-	-	-	1,228	-	-	1,228
TOTAL	**3,166**	**11**	**-**	**9,822**	**220**	**1,503**	**13,722**

(1) Administration of extramural programs.

Government of Saskatchewan

TABLE 63. Total Expenditures on R&D in the Social Sciences and Humanities, by Department or Agency and Performer, 1990-91(e)

Department or agency	Intramural	Industry	Universities	Hospitals and health organizations	Saskatchewan Research Council (1)	Other	Total
	in thousands of dollars						
Departments:							
Culture, Multiculturalism and Recreation	56	40	65	-	-	82	223
Economic Development and Tourism	-	360	40	-	-	-	400
Education	100	-	-	-	-	212	312
Finance	63	-	-	-	-	-	63
Future Corporation	-	-	-	-	-	75	75
Health	-	-	514	-	-	1,500	2,014
Rural Development	-	-	-	-	90	-	90
TOTAL	**219**	**400**	**599**	**-**	**90**	**1,869**	**3,177**

(1) Includes only Provincial Government payments to the SRC.

Government of Saskatchewan

TABLE 64. Personnel Engaged in Scientific Activities in the Social Sciences and Humanities, by Department or Agency and Activity, 1990-91(e)

Department or agency	Research and development				Related scientific activities			
	Scientific & professional	Technical	Other	Total	Scientific & professional	Technical	Other	Total
	person-years							
Departments:								
Agriculture and Food	-	-	-	-	1	-	1	2
Consumer and Commercial Affairs	-	-	-	-	1	-	-	1
Culture, Multiculturalism and Recreation	-	-	-	-	5	2	7	14
Education	3	-	-	3	5	1	-	6
Finance	1	-	-	1	36	-	6	32
Health	-	-	-	-	13	3	1	17
Human Resources, Labour and Employment	-	-	-	-	6	-	3	9
Justice	-	-	-	-	5	-	-	5
Parks and Renewable Resources	-	-	-	-	2	-	-	2
Public Service Commission	-	-	-	-	-	2	-	2
Social Services	-	-	-	-	1	-	-	1
Urban Affairs	-	-	-	-	3	-	-	3
Sub-total	4	-	-	4	68	8	18	94
Agencies:								
Saskatchewan Archives Board	-	-	-	-	14	-	14	28
Saskatchewan Housing Corporation	-	-	-	-	4	-	-	4
Sub-total	-	-	-	-	18	-	14	32
TOTAL	4	-	-	4	86	8	32	126

Government of Saskatchewan

TABLE 64. Personnel Engaged in Scientific Activities in the Social Sciences and Humanities, by Department or Agency and Activity, 1990-91(e) - Concluded

Department or agency	Administration of extramural programs				Total social science activities			
	Scientific & professional	Technical	Other	Total	Scientific & professional	Technical	Other	Total
	person-years							
Departments:								
Agriculture and Food	-	-	-	-	1	-	1	2
Consumer and Commercial Affairs	-	-	-	-	1	-	-	1
Culture, Multiculturalism and Recreation	2	-	-	2	7	2	7	16
Education	1	-	-	-	9	1	-	10
Finance	-	-	-	-	37	-	6	33
Future Corporation	-	-	1	1	-	-	1	1
Health	-	-	-	-	13	3	1	17
Human Resources, Labour and Employment	-	-	-	-	6	-	3	9
Justice	-	-	-	-	5	-	-	5
Parks and Renewable Resources	-	-	-	-	2	-	-	2
Public Service Commission	-	-	-	-	-	2	-	2
Social Services	-	-	-	-	1	-	-	1
Urban Affairs	-	-	-	-	3	-	-	3
Sub-total	3	-	1	4	79	8	19	102
Agencies:								
Saskatchewan Archives Board	-	-	-	-	14	-	14	28
Saskatchewan Housing Corporation	-	-	-	-	4	-	-	4
Sub-total	-	-	-	-	18	-	14	32
TOTAL	3	-	1	4	93	8	33	134

Government of Saskatchewan

TABLE 65. Objectives of Expenditures in the Social Sciences and Humanities, by Department or Agency, 1990-91(e)

Department or agency	Advancement of science	Health	Industrial and economic development		
			Agriculture	Manufacturing	Other
	In thousands of dollars				
Departments:					
Agriculture and Food	-	-	112	-	-
Consumer and Commercial Affairs	-	-	-	-	-
Culture, Multiculturalism and Recreation	95	-	-	-	-
Economic Development and Tourism	-	-	-	300	100
Education	-	-	-	-	-
Executive Council	95	-	-	-	-
Finance	-	-	-	-	-
Future Corporation	-	-	19	-	-
Health	-	3,403	-	-	-
Human Resources, Labour and Employment	-	388	-	-	-
Justice	-	-	-	-	-
Parks and Renewable Resources	-	-	-	-	-
Public Service Commission	-	-	-	-	-
Rural Development	-	-	-	-	95
Social Services	-	-	-	-	-
Urban Affairs	-	-	-	-	-
Sub-total	110	3,791	137	300	195
Agencies:					
Saskatchewan Archives Board	-	-	-	-	-
Saskatchewan Housing Corporation	-	-	-	-	-
Sub-total	-	-	-	-	-
TOTAL	110	3,791	137	300	195

Government of Saskatchewan

TABLE 65. Objectives of Expenditures in the Social Sciences and Humanities, by Department or Agency, 1990-91(e) - Concluded

Department or agency	Social development					Other	Total
	Culture, sport and recreation	Education	Human resources	Urban and regional studies	Other		
	In thousands of dollars						
Departments:							
Agriculture and Food	-	-	-	-	-	-	112
Consumer and Commercial Affairs	-	-	-	-	20	20	40
Culture, Multiculturalism	1,394	-	9	-	119	-	1,567
Economic Development and Tourism	-	-	-	-	-	-	400
Education	-	3,142	-	-	-	-	3,142
Executive Council	-	-	-	-	-	-	55
Finance	-	63	-	-	-	1,743	1,806
Future Corporation	100	150	-	262	-	-	535
Health	-	-	-	-	-	-	3,403
Human Resources Labour and Employment	-	-	310	-	-	-	698
Justice	-	-	-	-	174	-	174
Parks and Renewable Resources	100	-	-	-	-	-	100
Public Service Commission	-	-	125	-	-	-	125
Rural Development	-	-	-	-	-	-	95
Social Services	-	-	-	-	24	-	24
Urban Affairs	-	-	-	218	-	-	218
Sub-total	1,594	3,363	440	480	331	1,763	12,494
Agencies:							
Saskatchewan Archives Board	1,015	-	-	-	-	-	1,015
Saskatchewan Housing Corporation	-	-	-	-	213	-	213
Sub-total	1,015	-	-	-	213	-	1,228
TOTAL	2,609	3,363	440	480	544	1,763	13,722

Government of Saskatchewan

TABLE 66. Objectives of Expenditures in the Social Sciences and Humanities, by Activity, 1990-91(e)

Objective	Intramural		Extramural		Total
	Research and development	Related scientific activities	Research and development	Related scientific activities	
	in thousands of dollars				
Advancement of science	20	5	30	55	110
Health	-	922	2,014	855	3,791
Industrial and economic development:					
Agriculture	-	84	-	43	127
Manufacturing	-	-	300	-	300
Other	-	5	190	-	195
Social development:					
Culture, sport and recreation	11	1,987	97	514	2,609
Education	100	1,928	287	1,048	3,363
Human resources	-	428	5	7	440
Urban and regional studies	-	155	-	325	480
Other	25	446	15	38	544
Other	63	1,648	-	52	1,763
TOTAL	219	7,608	2,958	2,937	13,722

APPENDIX

RESPONDENTS

The following Departments and Agencies were involved in scientific activities in the province of Saskatchewan in 1989-90. The coordinator listed is the person in each Department/Agency who assisted us in gathering the statistics. We wish to thank the coordinators, as well as those assisting in the amalgamation of data, for their time and efforts in providing us with these statistics.

Agriculture and Food: Co-ordinator - Connie Lambert 787-5168
Agriculture and Food reports both natural and social sciences expenditures. Work in the natural sciences is focussed mainly on research, development, analysis and resolution of various agricultural problems and yield improvement requirements. Activities in the social sciences are carried out by the Communications Branch and deal with ADF Communications and the development of a long-range plan for the horse racing industry.

Cancer Foundation: Co-ordinator - Valerie J. Lusk 585-1831
Research and development is performed by the Physics and Medical Services departments of the Foundation. Activities in both departments relate to the development of improvements in cancer treatment. Physics research is aimed at developing improvements in treatment planning, patient positioning, automation and computer control of the treatment process. Medical research is in the area of cell biology and tissue culture.

Culture, Multiculturalism and Recreation: Co-ordinator -
Expenditures for Culture, Multiculturalism and Recreation were included within Parks, Recreation and Culture in 1989-90. Natural and social science activities are reported by the Saskatchewan Museum of Natural History, the Heritage Resources Section, Arts and Cultural Industries, and the Sports Recreation Branch.

Consumer and Commercial Affairs: Co-ordinator - Ron Zukowsky 787-3895
The Policy and Legislative Services Branch supports RSA in the social sciences. Projects include price monitoring of selected economic activities and background research for policy development in financial services and consumer protection.

Economic Development and Tourism: Co-ordinator - Laverne Moskal 787-9553
The Policy Development Branch supports both R&D and RSA in the social sciences. Extramural activities relate primarily to industrial, economic and tourism development.

Education: Co-ordinator - Joe Hindley 787-7384
Several branches within the department are engaged in R&D and RSA: Policy and Planning, Information Resources Management, Student Financial Assistance, Instructional Resources, and Policy and Client Services.

Energy and Mines: Co-ordinator - Sharron Powers 787-2517
Natural science activities are carried out by Geology and Mines, and the Energy Branch. Geology and Mines' geological survey provides an ongoing regional geoscientific database of the bedrock geology and mineral resources of the province. This database promotes economic development, particularly exploration for and development of minerals, petroleum and natural gas, and assists environmental studies. The Energy Branch coordinates provincial R&D activities, advising the government on energy R&D policy matters. This branch also administers the Saskatchewan Fossil Fuels Technology Development Program.

Environment and Public Safety: Co-ordinator - Aniko Szojka 787-7025
Natural science activities are carried out through the following branches: Air and Land Protection, Water Quality, Environment Assessment, Mines Pollution, Strategic Planning and Building Standards. These branches support both R&D and RSA activities. Included are such projects as: water quality assessments, assessment of technical information on environmental impact studies, and a study of recycling/reuse of toxic substances.

Executive Council: Co-ordinator - Bonita Heidt 787-6351
The Council supports RSA in the social sciences through the Intergovernmental Affairs Branch and the Policy Secretariat, in the way of extramural payments.

Finance: Co-ordinator - Keith Laxdal 787-6780
The intramural research activities of the Department of Finance centre around economic analysis and policy research related to resource allocation, taxation and investment, legislation and some marketing activities.

Future Corporation: Coordinator - Les Bowd 787-1990
Future Corporation reports natural and social science expenditures. The Corporation has two grant programs, the Innovative program and the Strategic program. Both programs support non-profit organizations who want to undertake/develop projects that will enable them to manage change and plan the future. They address challenges and opportunities related to the environment, agriculture, technology, education, resources or health and will generate practical economic benefits. Strategic initiatives however, will have greater importance, scope and long term social and economic impact than projects which qualify for the Innovative program.

Health: Co-ordinator - Wayne Fritz 787-3153
The organization and agencies included in this report are: Policy and Health Economics Branch, Saskatchewan Alcohol and Drug Abuse Commission, Medical Care Insurance Branch, Mental Health Services Branch and the Saskatchewan Health Research Board. The Policy and Health Economics Branch, provides technical and support services for studies, supports basic and clinical research, studies investigating changes in utilization of health care services, develops a client information system, provides general information services on medical care, and conducts statistical studies regarding the utlization of mental health services. The Health Research Board supports university-based researchers.

RESPONDENTS - Continued

Highways and Transportation: Co-ordinator - Dr. P.M. Pearson 787-4866
Scientific expenditures in the natural sciences are carried out by the Technical Research Branch, Geotechnical & Materials Testing Branch, Transportation Systems Branch, Transportation Policy Branch and the Design & Traffic Safety Branch. A number of studies and programs are performed intramurally and extramurally. Included are projects such as: test track improvements, studies on rutting, pavement temperature deflection, recycling agents in Sandvik operations, soil suction, and bearing capacity.

Human Resources, Labour & Employment: Co-ordinator - Dave Argue 787-2419
Labour Relations, Occupational Health and Safety, Support Services, Labour Standards, Employment Opportunities, and Pension Benefits are the units included in this year's social science report. Their related scientific activities include: the review of the Labour Standards Act, the Occupational Health and Safety Act and the Pension Benefits Act; building accessibility survey; and a grant to promote research and development in radiation safety.

Justice: Co-ordinator - B.A. Pottruff 787-8954
Policy, Planning and Evaluation Branch is involved in policy development within the department of Justice.

Parks and Renewable Resources: Co-ordinator - David Tulloch 787-1283
Natural science activities are carried out by five major branches: Resource Lands, Fisheries, Forest Fire Management, Forestry Inventory and Wildlife. More than ninety-eight percent of the activities were carried out intramurally. Social science expenditures are reported by the Parks Branch, who perform ninety-seven percent of their expenditures intramurally.

Public Service Commission: Co-ordinator - Mary C. Kutarna 787-7507
Social science activities are carried out by the Employee Relations and Compensation Division, the Classification Branch and the Staff Development Division.

Rural Development: Co-ordinator - Lloyd Talbot 787-2732
In the natural science activities, the Transportation Planning Branch conducts traffic volume studies, and provides a road inventory required in planning and assessing roadway needs. In the social sciences, the Community Development unit prepares the CORA (Catalogue of Opportunities for Rural Areas). This is a computer program and data base, providing individuals and rural economic development groups with information on development ideas and opportunities for rural areas.

Saskatchewan Archives Board: Co-ordinator - Trevor Powell 787-4066
Under **The Archives Act**, the Saskatchewan Archives Board is responsible for appraising, acquiring, preserving, arranging, describing, making accessible and encouraging the use of documentary records in all media from both official and private sources bearing on all aspects of the history of Saskatchewan. With the exception of the reference section all sections are principally engaged in archival services. During 1989-90 the annual grant from the Government of Saskatchewan remained at $840,000.00 Grants were also received from the Official Language Office, Department of Education for the Fransaskois project, from the Canadian Council of Archives for some backlog reduction projects and from the National Archives of Canada for cataloguing CBC materials. The City of Regina and the City of Saskatoon provide yearly grants to the Saskatchewan Archives Board which in turn hires staff and purchases archival supplies to operate an archival service both centres.

Saskatchewan Crop Insurance Corporation: Co-ordinator - Henry Schappert 728-7248
The Planning and Development Division conducts the following natural science related scientific activities: Yield Survey - used to collect average yield information on various crops on an area basis; Rainfall Reports - monthly rainfall records used to help predict forage yields; New Crops - research on the history and properties of crops not insured at the present time; Soil Class Review; Geographic Information System; and Remote Sensing.

Saskatchewan Housing Corporation: Co-ordinator - Maureen Yeske 787-1791
The Policy and Research Division oversee a number of related scientific activities including: the Survey of Tenants in Public Housing, and in the Prairie Housing Development (PHD) Portfolio; Housing Strategies; Housing Demand; Analysis of Housing Markets; Examination of Housing Affordability and Services for Seniors Survey.

Saskatchewan Property Management Corporation: Co-ordinator - Bruce Bishop 787-0242
In the natural sciences, the Central Survey and Mapping Agency includes 4 branches that report R&D and RSA: Geodetic Survey Branch, Topographic Mapping Branch, Data Management Branch, and the Cadastral Mapping Branch. The Central Survey and Mapping Agency is primarily the developer and manager of the basic Geographic Information Systems. The Agency investigates, evaluates, develops and implements advanced technology systems.

Saskatchewan Water Corporation: Co-ordinator - Terry Federko 694-3915
The Resource Management unit reports intramural and extramural expenditures. Projects include: information gathering on Soils-Water-Wetlands, investigation of the potential of Moose Jaq Geothermal Well and preparation of data books and reports on the Dam Safety Program.

Science and Technology: Co-ordinator - Royal Hinther 933-7209
Natural sciences departmental activities include: information collection and dissemination, industrial counselling, policy formulation, administration of R&D incentive contracts, statistical surveys and special services and studies. Social sciences departmental activities include: policy and program development related to provincial and federal governmental initiatives directed to encouraging the Advanced Technology Industry in Saskatchewan.

RESPONDENTS - Continued

Social Services: Co-ordinator - David Rosenbluth 787-7354
The intramural social science activities include: a study of adoption practices, a survey of the effects of employment programs for Social Assistance Recipients, and evaluation proposed for Family Sexual Abuse Treatment Project. Extramural activities are directed towards a survey of social assistance recipients and towards development and implementation of evaluation research for a Family Sexual Abuse Treatment Project.

Urban Affairs: Co-ordinator - Jo-Anne Harrison 787-8746
Municipal Finance Branch, Community Planning Branch and Advisory Services report RSA in the social sciences. Activities include Legislative & Regulatory Research and Special Services relating to financial information and studies relating to economic feasibility.

INDICATORS OF PROVINCIAL SCIENTIFIC ACTIVITIES

1. Economic Indicators

Province	Population January/90(1)		Provincial Gross Domestic Product per capita 1988(1)		Gross Domestic Expenditures on Research and Development, 1988(2)		Provincial GERD/PGDP 1988-89	
	in thousands	rank	dollars	rank	in millions of $	rank	per cent	rank
Newfoundland	573	9	13,724	9	81	9	1.0	6
Prince Edward Island .	131	10	13,450	10	13	10	0.7	9
Nova Scotia	889	7	16,664	7	206	5	1.4	2
New Brunswick	722	8	16,241	8	143	8	1.2	4
Québec	6,736	2	21,382	4	1,859	2	1.3	3
Ontario	9,668	1	25,648	2	4,274	1	1.7	1
Manitoba	1,087	5	19,764	5	205	6	1.0	5
**Saskatchewan	1,002	6	18,541	6	146	7	0.8	8
Alberta	2,449	4	25,924	1	610	3	0.9	7
British Columbia	3,106	3	21,963	3	509	4	0.7	10
**Canada(3)	26,440		22,790		8,058		1.4	

(1) **Canadian Economic Observer**, Statistics Canada, Catalogue No. 11-010, July 1990.
(2) **Science Statistics**, Catalogue No. 88-001, Vol. 14, No. 7, September 1990.
(3) Includes the Yukon and Northwest Territories.

2. Higher Education

Province	Total research and development expenditures in the higher education sector, 1988-89(1)			Sponsored research in universities, 1988-89(2)		
	in millions of $	$ per capita	rank	in millions of $	$ per capita	rank
Newfoundland	39	68	5	18	31	8
Prince Edward Island	3	23	10	1	8	10
Nova Scotia	64	72	4	40	45	4
New Brunswick	29	40	9	18	25	9
Québec	437	65	6	337	50	2
Ontario	781	81	2	469	49	3
Manitoba	85	78	3	43	40	5
**Saskatchewan	57	57	7	39	39	6
Alberta	231	94	1	127	52	1
British Columbia	155	50	8	98	32	7
**Canada	1,881	71		1,191	45	

(1) "Estimation of Research and Development Expenditures in the Higher Education Sector, 1988-89", Services, Science and Technology Division, Statistics Canada, August, 1990, ST-90-05.
(2) **Financial Statistics of Universities and Colleges, 1988-89**, Canadian Association of University Business Officers.

3. Industry

Province	Value added by manufacturing industries per capita, 1987:1:		Current intramural industrial R&D expenditures per employee in primary and secondary industry, 1988:2:	
	dollars	rank	dollars	rank
Newfoundland	1,372	8	41	10
Prince Edward Island	1,051	10	200	7
Nova Scotia	2,229	7	611	3
New Brunswick	2,898	4	233	6
Québec	4,496	2	1,069	2
Ontario	6,460	1	1,932	1
Manitoba	2,677	9	105	8
Saskatchewan	3,788	5	161	9
Alberta	2,262	6	491	4
British Columbia	3,469	3	376	5
Canada(3)	4,474		1,010	

(1) Manufacturing Industries of Canada: National and Provincial Areas, 1987, Statistics Canada, Catalogue No. 31-203.
(2) Results of 1988 Industrial R&D survey, Services, Science and Technology Division, Statistics Canada and Labour Force Information, July, 1990, Statistics Canada, Catalogue No. 71-0019.
(3) Includes the Yukon and Northwest Territories.

4. Federal Government

Province	Total intramural expenditures on scientific activities 1988-89:1:	Total Federal scientific personnel 1988-89:2:	Total extramural payments on scientific activities 1988-89:1:
	in millions of $	person-years	in millions of $
Newfoundland	53	568	22
Prince Edward Island	0	129	6
Nova Scotia	192	1,616	64
New Brunswick	61	606	39
Québec	912	3,985	501
Ontario	1,076	20,687	676
Manitoba	104	1,040	49
Saskatchewan	58	738	37
Alberta	189	1,667	93
British Columbia	174	1,724	167
Canada(3)	2,567	33,560	1,658

(1) Science Statistics, Catalogue No. 88-001, Vol. 14, No. 8, November 1990.
(2) "Regional Distribution of Federal Expenditures on Science and Technology 1988-89", Services, Science and Technology Division, Statistics Canada, October 1990, ST-10-07.
(3) Includes the Yukon and Northwest Territories.

5. Provincial Government

Province	Total provincial expenditures on scientific activities, 1989-89(1)			Total scientific expenditures of Provincial Research Organizations, 1989(2)	
	in millions of $	$ per capita	rank	in millions of $	rank
Newfoundland	32.7	57	9	...	...
Nova Scotia	67.9	93	4	7.1	7
New Brunswick	26.4	37	8	8.4	6
Québec	449.9(p)	67	2	92.4	2
Ontario	611.7	63	6	31.2	3
Manitoba	36.6	32	9	9.9	8
Saskatchewan	66.3	66	5	18.8	4
Alberta	236.6	96	1	50.7	1
British Columbia	128.2	41	7	10.9	5
Total	1,699.3(3)	670		164.6	

(1) "Scientific and Technological Activities of Provincial Governments, 1981-82 to 1989-90", Services, Science and Technology Division, Statistics Canada, August 1990, 87-90-02.
(2) Science Statistics, Catalogue No. 88-001, Vol. 14, No. 9, December 1990.
(3) Does not include scientific activities of the provincial governments of Prince Edward Island nor the Yukon and Northwest Territories.

6. Gross Domestic Expenditures on R&D in Canada, by Performing Sector, by Province, 1988(1)

Province	Federal government	Provincial government	Provincial research organization	Total government	Industry	University	Private non-profit	All sectors
	in millions of $							
Newfoundland	29	4	-	33	9	39	-	81
Prince Edward Island	8	-	-	8	2	3	-	13
Nova Scotia	76	6	9	91	60	64	1	306
New Brunswick	26	2	3	31	82	29	1	143
Québec	194	69	10	321	1,158	437	43	1,959
Ontario	770	94	13	841	3,591	781	61	6,274
Manitoba	77	1	2	80	35	83	9	205
Saskatchewan	60	6	0	58	30	57	-	146
Alberta	65	29	31	125	294	231	1	610
British Columbia	78	14	4	96	291	199	7	909
Canada(2)	1,322	183	80	1,587	4,492	1,681	128	8,696

(1) "Estimates of Canadian Research and Development Expenditures (GERD), National 1963 to 1990, and by Province 1979 to 1988", Services, Science and Technology Division, Statistics Canada, August 1990, 88-00-06.
(2) Includes the Yukon and Northwest Territories.

7. Gross Domestic Expenditures on R&D in Canada, by Funding Sector, by Province, 1988(1)

Province	Federal government	Provincial government	Provincial research organization	Total government	Industry	University	Private non-profit	All sectors (3)
	in millions of $							
Newfoundland	67	5	-	92	6	21	1	81
Prince Edward Island	9	-	-	9	2	2	-	13
Nova Scotia	121	9	-	130	42	26	5	206
New Brunswick	98	6	-	45	62	12	-	143
Québec	694	182	1	887	941	96	35	1,880
Ontario	1,229	143	-	1,368	1,696	220	61	4,276
Manitoba	106	7	-	113	52	42	11	205
Saskatchewan	67	21	-	88	35	18	2	148
Alberta	129	116	2	248	231	104	6	618
British Columbia	169	32	-	220	201	97	19	509
Canada(2)	2,436	966	3	3,983	3,369	694	159	8,658

(1) "Estimates of Canadian Research and Development Expenditures (GERD), National 1963 to 1988, and by Province 1978 to 1988", Services, Science and Technology Division, Statistics Canada, August 1988, 88-00-06.
(2) Includes the Yukon and Northwest Territories.
(3) Includes foreign sources of funds.

8. Gross Domestic Expenditures on R&D in Saskatchewan, 1988(1)

Funding sector	Performing sector							
	Governments				Business enterprise	Higher education	Private non-profit	Total
	Federal	Provincial	NR Research Council	Total				
	in millions of $							
Governments								
Federal	60	-	1	61	6	22	-	67
Provincial	-	6	3	9	5	11	-	21
Each Research Council	-	-	-	-	-	-	-	-
Sub-total	60	6	4	69	7	33	-	88
Business enterprise	0	0	0	0	29	4	-	35
Higher education	0	0	0	0	0	19	-	19
Private non-profit	-	-	-	-	-	2	-	2
Foreign	-	-	-	-	3	1	-	5
Total	60	6	6	50	39	57	-	146

(1) "Estimates of Canadian Research and Development Expenditures (GERD), National 1963 to 1988, and by Province 1978 to 1988", Services, Science and Technology Division, Statistics Canada, August 1988, 88-00-06.

9. Federal Government Grants and Contracts to Industry for R&D in the Natural Sciences, by Selected Department/Program and Region, 1988-89(1)

Department/Program	NFLD	PEI	NS	NB	QUE	ONT	MAN	SASK	ALTA	BC	CANADA(2)
	in millions of $										
A. R&D Grants:											
Industry, Science and Technology:											
Industrial and Regional Development Program	—	-	-	18.8	9.0	14.3	-	-	-	-	42.1
Defence Industry Productivity Program	-	-	3.4	-	99.1	39.0	-	-	-	5.1	146.6
Other	—	-	0.2	—	9.9	4.6	0.5	0.3	0.2	0.5	12.4
Sub-total	—	-	3.6	18.8	114.0	57.9	0.5	0.3	0.2	5.6	201.1
National Research Council:											
Industrial Research Assistance Program	1.4	1.4	1.9	1.4	14.3	26.1	2.4	1.8	4.5	6.6	62.1
Other	0.5	0.1	0.3	0.2	6.6	4.6	0.1	0.3	0.8	0.8	14.3
Sub-total	1.9	1.5	2.2	1.6	20.9	30.7	2.5	2.1	5.3	7.4	76.4
Other	0.1	-	0.2	-	13.5	11.4	0.5	3.0	2.9	3.6	34.8
Total	2.0	1.5	6.0	20.4	148.4	100.0	3.5	5.4	8.4	16.6	313.3
B. R&D Contracts:											
National Defence	0.4	-	4.1	—	9.5	77.8	4.5	—	2.4	4.5	103.1
National Research Council	0.7	-	0.2	-	1.3	43.8	0.2	1.5	-	0.2	47.9
Supply and Services	0.5	-	1.9	—	1.6	5.4	0.2	0.1	0.6	3.7	14.1
Other	0.8	0.1	2.4	0.6	15.8	29.1	1.4	0.9	3.8	8.0	61.7
Total	2.4	0.1	8.6	0.6	28.2	155.1	6.3	2.5	6.8	16.4	227.0
Total, grants and contracts	4.4	1.6	14.6	21.0	176.6	255.1	9.8	7.9	15.2	33.0	539.3

(1) Science Statistics, Catalogue No. 88-001, Vol. 14, No. 8, November 1990.
(2) Includes Yukon and Northwest Territories.
The data expressed here are regional representations and will not correspond to Canada aggregates shown in other Statistics Canada publications. Total may not add due to rounding.

10. Federal Government Expenditures on Scientific Activities in the Natural Sciences, by Region and Selected Departments, 1988-89(1)

Region	Agriculture	Energy, Mines and Resources	Environment	Industry Science and Technology	National Defence	National Research Council	Natural Sciences and Engineering Research Council	Other	Total
	in millions of $								
Newfoundland	2	3	5	-	—	15	7	32	64
Prince Edward Island	8	2	1	-	—	2	—	1	14
Nova Scotia	10	17	16	5	22	12	12	70	164
New Brunswick	9	2	7	19	-	2	7	25	71
Québec	31	29	63	117	56	40	80	208	644
Ontario	126	208	144	81	167	305	197	437	1,665
Manitoba	36	2	18	1	5	6	10	96	134
Saskatchewan	25	4	13	1	-	16	12	9	80
Alberta	28	25	31	1	23	7	29	39	183
British Columbia	18	14	31	7	19	43	44	96	272
Canada(2)	293	318	342	232	272	468	358	977	3,360

(1) "Regional Distribution of Federal Expenditures on Science and Technology, 1988-89", Services, Science and Technology Division, Statistics Canada, November 1990, ST-90-07.
(2) Includes Yukon and Northwest Territories.

11. Federal Government Intramural Expenditures on Scientific Activities in the Natural Sciences by Region and Selected Departments, 1988-89(1)

Region	Agriculture	Atomic Energy of Canada Ltd	Energy, Mines and Resources	Environment	Fisheries and Oceans	National Defence	National Research Council	Other	Total
	in millions of $								
Newfoundland	2	-	-	8	28	-	12	3	47
Prince Edward Island	7	-	-	1	—	-	—	-	8
Nova Scotia	9	-	13	15	51	18	8	1	115
New Brunswick	9	-	-	7	16	-	—	7	19
Québec	27	-	5	48	19	45	36	40	220
Ontario	121	71	104	135	25	62	227	219	1,044
Manitoba	33	30	-	18	11	-	3	1	96
Saskatchewan	21	-	3	12	-	-	12	-	48
Alberta	26	-	20	30	-	20	—	6	104
British Columbia	17	-	7	28	42	14	8	10	126
Canada(2)	274	101	244	311	180	158	307	289	1,872

(1) "Regional Distribution of Federal Expenditures on Science and Technology, 1988-89", Services, Science and Technology Division, Statistics Canada, November 1990, ST-90-07.
(2) Includes Yukon and Northwest Territories.

12. **Federal Government Intramural Expenditures on R&D in the Natural Sciences, by Region and Selected Departments, 1988-89(1)**

Region	Agriculture	Atomic Energy of Canada Ltd	Energy, Mines and Resources	Environment	Fisheries and Oceans	National Defence	National Research Council	Other	Total
	in millions of $								
Newfoundland	2	-	-	—	10	-	11	4	27
Prince Edward Island	7	-	-	—	—	-	-	-	7
Nova Scotia	9	-	1	1	33	18	7	-	68
New Brunswick	9	-	-	2	6	-	-	7	24
Québec	27	-	4	5	11	45	30	16	138
Ontario	100	66	72	33	9	61	194	118	653
Manitoba	30	28	-	1	9	-	2	1	71
Saskatchewan	28	-	2	6	-	-	9	-	37
Alberta	26	-	9	2	-	28	—	7	68
British Columbia	17	-	1	1	28	14	6	5	72
Canada(2)	367	94	89	52	107	156	359	157	1,157

(1) "Regional Distribution of Federal Expenditures on Science and Technology, 1988-89", Services, Science and Technology Division, Statistics Canada, November 1990, ST-90-07.
(2) Includes Yukon and Northwest Territories.

13. **Federal Government Personnel Engaged in Scientific Activities in the Natural Sciences, by Region and Selected Departments, 1988-89(1)**

Region	Agriculture	Atomic Energy of Canada Ltd	Energy, Mines and Resources	Environment	Fisheries and Oceans	National Defence	National Research Council	Other	Total
	person-years								
Newfoundland	32	-	-	72	268	-	61	68	481
Prince Edward Island	105	-	-	12	6	-	1	-	124
Nova Scotia	138	-	136	193	971	209	84	16	1,341
New Brunswick	144	-	-	96	187	-	3	104	574
Québec	614	-	6	542	173	612	339	621	2,727
Ontario	1,671	1,709	2,242	1,393	307	723	2,939	2,965	13,509
Manitoba	359	733	-	278	136	-	25	18	1,549
Saskatchewan	361	-	5	175	-	-	136	5	682
Alberta	662	-	204	413	-	189	4	102	1,574
British Columbia	261	-	77	358	468	137	102	194	1,597
Canada(2)	3,948	2,442	2,683	3,635	2,885	1,864	3,294	4,147	26,107

(1) "Regional Distribution of Federal Expenditures on Science and Technology, 1988-89", Services, Science and Technology Division, Statistics Canada, November 1990, ST-90-07.
(2) Includes Yukon and Northwest Territories.

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